AutoDome Easy II

VEZ Series

BOSCH

en Installation Manual

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1 Safety

1.1 Important Safety Instructions

Read, follow, and retain for future reference all of the following safety instructions. Heed all warnings on the unit and in the operating instructions before operating the unit.

1. **Cleaning -** Unplug the unit from the outlet before cleaning. Follow any instructions provided with the unit. It is generally sufficient to use a dry cloth for cleaning, but a moist lint-free cloth or leather shammy may also be used. Do not use liquid cleaners or aerosol cleaners.
2. **Heat sources -** Do not install the unit near any heat sources such as radiators, heaters, stoves, or other devices (including amplifiers) that produce heat.
3. **Ventilation -** Any openings in the unit housing are provided for ventilation to prevent overheating and ensure reliable operation. Do not block or cover these openings. Do not place the unit in an enclosure unless proper ventilation is provided, or the manufacturer's instructions have been adhered to.
4. **Water -** Do not use this unit near water, for example near a bathtub, washbowl, sink, laundry basket, in a damp or wet basement, near a swimming pool, or in any area classified as a wet location. To reduce the risk of fire or electrical shock, do not expose this unit to rain or moisture.
5. **Object and liquid entry -** Never push objects of any kind into this unit through openings, as they may touch dangerous voltage points or short out parts, which could result in a fire or electrical shock. Never spill liquid of any kind on the unit. Do not place objects filled with liquids, such as vases or cups, on the unit.
6. **Lightning -** For added protection during a lightning storm, or when leaving this unit unattended and unused for long periods, unplug the unit from the wall outlet and disconnect the cable system. This will prevent damage to the unit from lightning and power line surges.

7. **Control adjustment -** Adjust only those controls specified in the operating instructions. Improper adjustment of other controls may cause damage to the unit. Use of controls or adjustments, or performance of procedures other than those specified, may result in hazardous radiation exposure.
8. **Overloading -** Do not overload outlets and extension cords. This can cause fire or electrical shock.
9. **Power disconnect -** Units with or without ON/OFF switches have power supplied whenever the power cord is inserted into the power source; however, the unit is operational only when the ON/OFF switch is in the ON position. The power cord is the main power disconnect device for switching off the voltage for all units.
10. **Power sources -** Operate the unit only via the type of power source indicated on the label. Before proceeding, be sure to disconnect the power from the cable being connected to the unit.
    - For battery powered units, refer to the operating instructions.
    - For units supplied by an external power source, use only the recommended or approved power supplies.
    - For limited power source units, this power source must comply with *EN60950*. Substitutions may damage the unit or cause fire or shock.
    - For 24 VAC units, voltage applied to the unit's power input should not exceed +/- 10% or 21.6-26.4 VAC. User-supplied wiring must comply with local electrical codes (Class 2 power levels). Do not ground the supply at the terminals or at the unit's power supply terminals.
    - If unsure of the type of power supply to use, contact your dealer or local power company.
11. **Servicing -** Do not attempt to service this unit yourself. Opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

12. **Damage requiring service -** Unplug the unit from the main AC power source and refer servicing to qualified service personnel when any damage to the equipment has occurred, for example if:
    - the power supply cord or plug is damaged
    - exposure to moisture, water, and/or inclement weather (rain, snow etc.)
    - liquid has been spilled in or on the equipment
    - an object has fallen into the unit
    - the unit has been dropped or the unit cabinet is damaged
    - the unit exhibits a distinct change in performance
    - the unit does not operate normally when the user correctly follows the operating instructions.
13. **Replacement parts -** Be sure the service technician uses replacement parts specified by the manufacturer, or that they have the same characteristics as the original parts. Unauthorized substitutions may cause fire, electrical shock, or other hazards.
14. **Safety check -** Safety checks should be performed on completion of service or repairs to the unit, to ensure that the unit is in proper operating condition.
15. **Installation -** Install in accordance with the manufacturer's instructions and in accordance with applicable local codes.
16. **Attachments, changes, or modifications -** Only use attachments/accessories specified by the manufacturer. Any change to or modification of the equipment not expressly approved by Bosch could void the warranty or, in the case of an authorization agreement, authority to operate the equipment.

1.2 Safety Precautions

DANGER!
This symbol indicates an imminently hazardous situation such as “Dangerous Voltage” inside the product. If not avoided, this will result in an electrical shock, serious bodily injury, or death.

WARNING!
Indicates a potentially hazardous situation. If not avoided, this may result in minor or moderate injury. Alerts the user to important instructions accompanying the unit.

CAUTION!
Indicates a potentially hazardous situation. If not avoided, this may result in damage to property or risk of damage to the unit.

NOTICE!
This symbol indicates information or a company policy that relates directly or indirectly to the safety of personnel or protection of property.

1.3 Important Notices

Accessories - Do not place this unit on an unstable stand, tripod, bracket, or mount. The unit may fall, causing serious injury to persons and/or severe damage to the unit. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer. When a cart is used, exercise caution and care when moving the cart/apparatus combination to avoid tipping it over, which could result in injury. Quick stops, excessive force, or uneven surfaces may cause the cart/unit combination to overturn. Mount the unit in line with the manufacturer's instructions.

All-pole power switch - Incorporate an all-pole power switch, with a contact separation of at least 3 mm in each pole, into the electrical installation of the building. If it is needed to open the housing for servicing and/or other activities, use this all-pole

switch as the main disconnect device for switching off the voltage to the unit.

Camera grounding - When mounting the camera in potentially damp environments, ensure the system is grounded through the metal housing of the unit (see section: Connecting the Power).

Camera signal - Protect the cable with a primary protector if the camera signal is over 140 feet, in accordance with *NEC800 (CEC Section 60)*.

Coax grounding:

- Ground the cable system if connecting an outside cable system to the unit.
- Connect outdoor equipment to the unit's inputs only after this unit has had its grounding plug connected to a grounded outlet or its ground terminal is properly connected to a ground source.
- Disconnect the unit's input connectors from outdoor equipment before disconnecting the grounding plug or grounding terminal.
- Follow proper safety precautions, such as grounding, for any outdoor device connected to this unit.

U.S.A. models only - *Section 810* of the *National Electrical Code, ANSI/NFPA No. 70*, provides information regarding proper grounding of the mount and supporting structure, grounding of the coax to a discharge unit, size of grounding conductors, location of discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

Your Bosch product was developed and manufactured with high-quality material and components that can be recycled and reused. This symbol means that electronic and electrical appliances that have reached the end of their service life must be collected and disposed of separately from household waste material. Separate collecting systems are usually in place for disused electronic and electrical products. Please dispose of these units at an environmentally compatible recycling facility, in line with *European Directive 2002/96/EC*.

Environmental statement - Bosch has a strong commitment to the environment. This unit has been designed to respect the environment as much as possible.

Electrostatic-sensitive device - Take proper CMOS/MOS-FET handling precautions to avoid electrostatic discharge.
NOTE: You must wear grounded wrist straps and observe proper ESD safety precautions when handling the electrostatic-sensitive printed circuit boards.

Fuse rating - For security protection of the device, the branch circuit protection must be secured with a maximum fuse rating of 16 A. This must be in accordance with *NEC800 (CEC Section 60)*.

Grounding and polarization - This unit may be fitted with a polarized alternating current line plug (a plug with one blade wider than the other blade). This safety feature allows the plug to fit into the power outlet in only one way. If unable to insert the plug fully into the outlet, contact a locally certified electrician to replace the obsolete outlet. Do not defeat the safety purpose of the polarized plug.
Alternatively, this unit may be fitted with a 3-pole grounding plug (a plug with a third pin for earth grounding). This safety feature allows the plug to fit into a grounded power outlet only. If unable to insert the plug into the outlet, contact a locally certified electrician to replace the obsolete outlet. Do not defeat the safety purpose of the grounding plug.

Outdoor signals - The installation for outdoor signals, especially regarding clearance from power and lightning conductors and transient protection, must be in accordance with *NEC725* and *NEC800 (CEC Rule 16-224* and *CEC Section 60)*.

Moving - Disconnect the power before moving the unit. Move the unit with care.

PoE (Indoor models only) - Never supply power via the Ethernet connection (PoE) when power is already supplied via the power connector nor to an outdoor model.

Permanently connected equipment - Incorporate a readily accessible disconnect device in the building installation wiring.

Pluggable equipment - Install the socket outlet near the equipment so it is easily accessible.

Power disconnect - Units have power supplied whenever the power cord is inserted into the power source. The power cord is the main power disconnect for all units.

Power lines - Do not locate the camera near overhead power lines, power circuits, electrical lights, or anywhere where it might come into contact with power lines, circuits, or lights.

SELV

All the input/output ports are Safety Extra Low Voltage (SELV) circuits. SELV circuits should only be connected to other SELV circuits.

Because the ISDN circuits are treated like telephone-network voltage, avoid connecting the SELV circuit to the Telephone Network Voltage (TNV) circuits.

Video loss - Video loss is inherent to digital video recording; therefore, Bosch Security Systems cannot be held liable for any damage that results from missing video information. To minimize the risk of lost digital information, Bosch Security Systems recommends multiple, redundant recording systems, and a procedure to back up all analog and digital information.

NOTICE! This is a class A product. In a domestic environment this product may cause radio interference, in which case the user may be required to take adequate measures.

FCC & ICES INFORMATION

(U.S.A. and Canadian Models Only)

This device complies with *part 15* of the *FCC Rules*. Operation is subject to the following conditions:

– this device may not cause harmful interference, and
– this device must accept any interference received, including interference that may cause undesired operation.

Note

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules and ICES-003 of Industry Canada. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and radiates radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his expense.

Intentional or unintentional modifications not expressly approved by the party responsible for compliance shall not be made. Any such modifications could void the user's authority to operate the equipment. If necessary, the user should consult the dealer or an experienced radio/television technician for corrective action.

The user may find the following booklet, prepared by the Federal Communications Commission, helpful: How to Identify and Resolve Radio-TV Interference Problems. This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

INFORMATIONS FCC ET ICES

(modèles utilisés aux États-Unis et au Canada uniquement)

Ce produit est conforme aux normes FCC partie 15. La mise en service est soumises aux deux conditions suivantes:

– cet appareil ne peut pas provoquer d'interférence nuisible et
– cet appareil doit pouvoir tolérer toutes les interférences auxquelles il est soumit, y compris les interférences qui pourraient influer sur son bon fonctionnement.

AVERTISSEMENT: Suite à différents tests, cet appareil s'est révélé conforme aux exigences imposées aux appareils numériques de Classe A en vertu de la section 15 du règlement de la Commission fédérale des communications des États-Unis (FCC). Ces contraintes sont destinées à fournir une protection raisonnable contre les interférences nuisibles quand l'appareil est utilisé dans une installation commerciale. Cette appareil génère, utilise et émet de l'energie de fréquence radio, et peut, en cas d'installation ou d'utilisation non conforme aux instructions, générer des interférences nuisibles aux communications radio. L'utilisation de ce produit dans une zone résidentielle peut provoquer des interférences nuisibles. Le cas échéant, l'utilisateur devra remédier à ces interférences à ses propres frais.

Au besoin, l'utilisateur consultera son revendeur ou un technicien qualifié en radio/télévision, qui procédera à une opération corrective. La brochure suivante, publiée par la Commission fédérale des communications (FCC), peut s'avérer utile : « How to Identify and Resolve Radio-TV Interference Problems » (Comment identifier et résoudre les problèmes d'interférences de radio et de télévision). Cette brochure est disponible auprès du U.S. Government Printing Office, Washington, DC 20402, États-Unis, sous la référence n° 004-000-00345-4.

AVERTISSEMENT: Ce produit est un appareil de Classe A. Son utilisation dans une zone résidentielle risque de provoquer des interférences. Le cas échéant, l'utilisateur devra prendre les mesures nécessaires pour y remédier.

Disclaimer

Underwriter Laboratories Inc. (“UL”) has not tested the performance or reliability of the security or signaling aspects of this product. UL has only tested fire, shock and/or casualty hazards as outlined in UL's *Standard(s) for Safety for Information Technology Equipment, UL/IEC 60950-1*. UL Certification does not cover the performance or reliability of the security or signaling aspects of this product.
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NOTICE!

This user guide has been compiled with great care and the information it contains has been thoroughly verified. The text was complete and correct at the time of printing. The ongoing development of the products may mean that the content of the user guide can change without notice. Bosch Security Systems accepts no liability for damage resulting directly or indirectly from faults, incompleteness or discrepancies between the user guide and the product described.

1.4 Customer Support and Service

If this unit needs service, contact the nearest Bosch Security Systems Service Center for authorization to return and shipping instructions.

Service Centers

USA

Repair Center

Telephone: 800-566-2283

Fax: 800-366-1329

E-mail: repair@us.bosch.com

Customer Service

Telephone: 888-289-0096

Fax: 585-223-9180

E-mail: security.sales@us.bosch.com

Technical Support

Telephone: 800-326-1450

Fax: 585-223-3508 or 717-735-6560

E-mail: technical.support@us.bosch.com

Canada

Telephone: 514-738-2434

Fax: 514-738-8480

Europe, Middle East, Africa Region

Repair Center

Telephone: 31 (0) 76-5721500

Fax: 31 (0) 76-5721413

E-mail: RMADesk.STService@nl.bosch.com

Asia Region

Repair Center

Telephone: 65 63522776

Fax: 65 63521776

E-mail: rmahelpdesk@sg.bosch.com

Warranty and additional information

For additional information and warranty queries, please contact your Bosch Security Systems representative or visit our website at www.boschsecurity.com.

2 Unpacking

This equipment should be unpacked and handled with care. If an item appears to have been damaged in shipment, notify the shipper immediately. Verify that all the parts listed in *Section 2.1 Parts List* are included. If any items are missing, notify your Bosch Security Systems Sales or Customer Service Representative.

The original packing carton is the safest container in which to transport the unit and must be used if returning the unit for service. Save it for possible future use.

2.1 Parts List

The AutoDome Easy II includes the following components:

- One (1) PTZ Dome (Dome camera)
- One (1) accessory kit including
  - One (1) 2-wire camera power cable, red and black wires
  - One (1) 2-wire heater power cable, white/red and white/black wires (outdoor models only)
  - One (1) 7-wire control cable
  - One (1) 4-wire alarm in/out cable
- One (1) mounting bracket
- One (1) outdoor installation kit (outdoor models only)
- One (1) user manual

2.2 Safety Rules

To ensure safety, the following warnings are specified:

- The device must be installed and maintained by skilled technical personnel.
- Connect the device to a power source corresponding to the indications given on the marking label.
- Use only the attachments/accessories specified by the manufacturer.
- Unplug the device during lightning storms or when unused for long periods of time.
- Do not use the device near water (indoor models only).
- Do not use the device in the presence of flammable substances.
- Do not allow children or unauthorized personnel to use the device.
- Do not block any ventilation openings.
- Keep this manual for future reference.

3 Description

The AutoDome Easy II is part of a larger building block for any surveillance/security system. By using multiple keyboard controllers and multiple dome cameras, no place is too large for monitoring. Extensible and flexible architecture facilities remote control functions for a variety of external switching devices such as multiplexers and DVRs (see *Figure 3.1* for sample configuration).

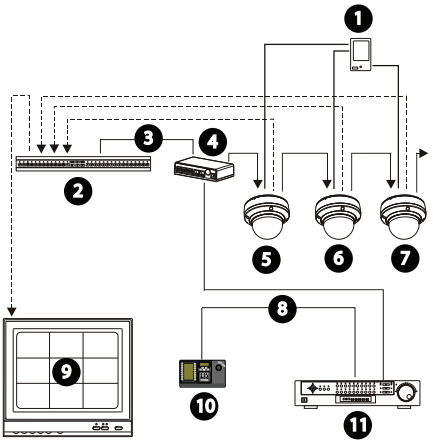


Figure 3.1 System Configuration

1	Alarm Input (sensor)		6	AutoDome Easy II
2	Multiplexer		7	AutoDome Easy II
3	RS-485 Cable		8	RS-485 Cable
4	Junction Box		9	Monitor
5	AutoDome Easy II		10	Keyboard
			11	DVR

This installation should be made by qualified service personnel and conform to the National Electrical Code and applicable local codes.

NOTICE!
A grounded conduit is required in order to meet the EMC Regulation Requirements.

4 Installing a Surface Mount

4.1 Description

This chapter details how to mount the AutoDome Easy II to a hard surface. The AutoDome Easy II is also suitable for wall (*Section 5 Installing a Wall Mount, page 31*), recess (*Section 6 Installing a Recessed Mount, page 42*), and pipe mounting (*Section 7 Installing a Pipe Mount, page 50*). For specific directions on mounting the unit, see the manual that came with your mount.

For an outdoor installation you must obtain the Surface Mount Junction Box (VEZ-A2-JC or VEZ-A2-JW) and the gaskets and O-rings supplied with an AutoDome Easy II Outdoor Camera to ensure a water-tight environment inside the unit and to maintain an IP Environmental Protection Rating. Refer to *Section 4.1.3 Preparing the Surface Mount for an Outdoor Installation, page 24*, to start an outdoor installation.

NOTICE!

The image sensors in modern CCD cameras are highly sensitive and require special care for proper performance and extended lifetime. Follow the guidelines for optimum results with your camera:

- Do not expose to direct sunlight or bright spotlights in operating and nonoperating conditions.
- Avoid bright lights in the field of view of the camera. Bright lights cause a “smearing” effect, which is visible as white lines above and below the highlight. Prolonged exposure to bright lights may cause bleaching of the sensor's color filters. This will be visible as colored spots in the picture and is irreversible.

4.1.1 Additional Tools Required

- Appropriate straight slot screwdrivers
- No. 2 Phillips screwdriver
- Appropriate tool for cutting a hole in drywall or ceiling tile (if applicable)
- 4 in. x 4 in. Junction box with 90 mm (3.54 in.) mount holes (indoor installation)
- Four (4) M4 or #10 pan head screws of an appropriate length to screw deep enough into the surface (outdoor installation)
- One (1) ground
- T-10 Torx wrench
- VEZ-A2-JW or VEZ-A2-JC Surface Mount Junction Box, required for an outdoor installation
- AutoDome Easy II Outdoor Camera, required for an outdoor installation

4.1.2 Preparing the Surface Mount for an Indoor Installation

The following instructions detail the preparation necessary to prepare the surface and the steps to install a Surface Mount.

1. Determine a secure location for the surface mount dome.

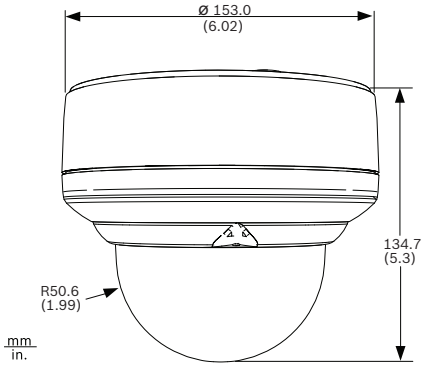


Figure 4.1 Indoor Surface Mount Dimensions

2. Install a 4 in. gang box or square metal junction box (not supplied). Ensure junction box and mounting screws are capable of supporting a maximum load of 11.33 kg (25 pounds).

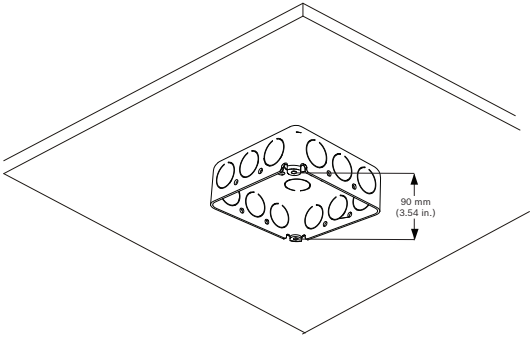


Figure 4.2 Install User-supplied Junction Box

3. Secure the mounting plate to the junction box with the user supplied hardware (see *Figure 4.3*).

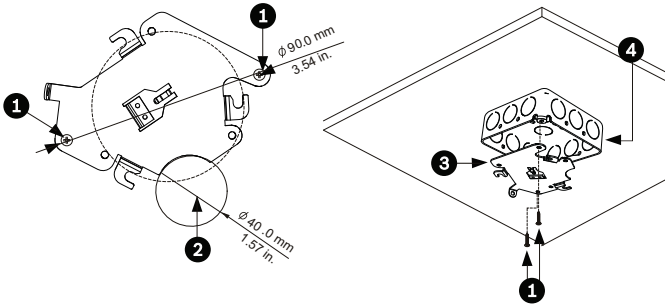


Figure 4.3 Install the Mounting Plate

1	Junction Box Holes
2	Cable Hole (40 mm maximum); Crescent Shape
3	Mounting Plate
4	Junction Box

4. Skip to *Section 4.1.4 Installing the Camera to the Mounting Plate, page 28*, to continue the installation.

4.1.3 Preparing the Surface Mount for an Outdoor Installation

The following instructions detail the preparation necessary to prepare the surface and the steps to install the Surface Mount Junction Box for an outdoor application.

1. Determine a secure location for the surface mount and the dome. The illustration below shows the placement of the surface mount (item 1, below) and the dome (item 2).

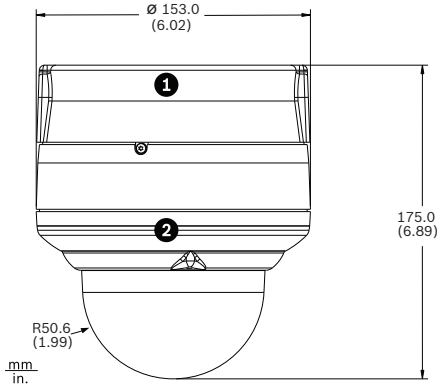


Figure 4.4 Outdoor Surface Mount with AutoDome Easy II

2. Use the VEZ-A2-JC or VEZ-A2-JW Surface Mount Junction Box as a template to mark the location of the four (4) M4 or #10 pan head screws (Item 1, below).

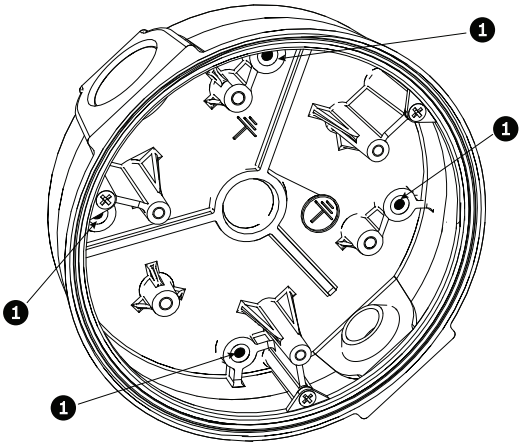
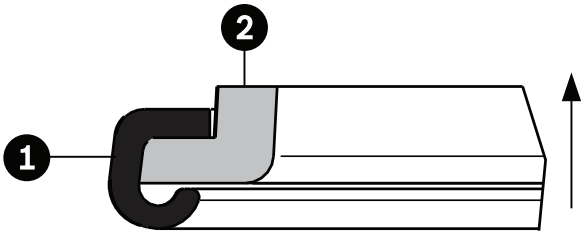


Figure 4.5 Location of M4 or #10 pan head screws

3. Drill the four (4) holes in the installation location. Use a minimum screw length of 10 mm (.39 in.).
4. Prepare the surface so that it can support a maximum load of 11.33 kg (25 lbs).
5. Thread the four (4) 3.97 mm I.D. by Ø1.78 mm O-rings (Item 3, *Figure 4.6*) onto the four (4) M4 or #10 user-supplied pan head screws. The O-rings are supplied with the AutoDome Easy II Outdoor Camera.
6. Ensure that the gasket is attached to the retaining ring. If the gasket and the retaining ring are separate:
   a. Locate the flat side of the gasket and the recessed side of the retaining ring.
   b. Thread the flat side of the gasket (item 1, below) onto the recessed side of the retaining ring (item 2). The illustration below shows a cross-section of the gasket on the retaining ring.



CAUTION!
You must ensure that the gasket is attached to the retaining ring as shown above to ensure an environmentally tight seal.

7. Attach the retaining ring with gasket (item 2, below) to the Surface Mount Junction Box. These parts are supplied with the AutoDome Easy II Outdoor Camera. Ensure that the side of the retaining ring with the counter-sunk screw holes is facing you.

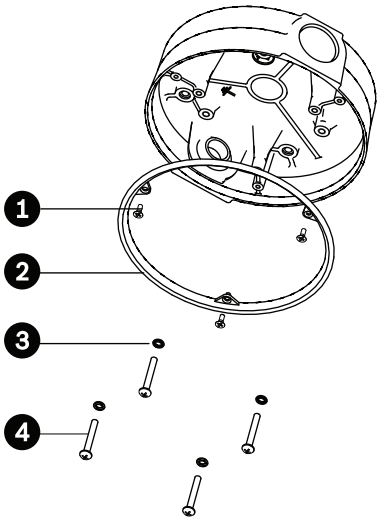


Figure 4.6 O-ring and retaining ring for outdoor installation

1	M3 – .5 x 6 Phillips flat head machine screws (supplied with AutoDome Easy II Outdoor Camera)
2	Retaining ring with gasket (supplied with AutoDome Easy II Outdoor Camera)
3	O-ring, 3.97 mm I.D. by Ø1.78 mm (supplied with AutoDome Easy II Outdoor Camera)
4	User-supplied M4 or #10 pan head screws

8. Determine the side of the Surface Mount Junction box in which the external wires are to be routed and remove the plug from the knockout.
9. Apply a 1/2-inch (15-mm) NPS fitting to the chosen knockout. Ensure a water-tight fitting to maintain the IP Environmental Protection Rating for the unit.
10. Attach the Surface Mount Junction Box to the surface using four (4) user-supplied M4 or #10 pan head screws (screws not supplied). Use a minimum screw length of 10 mm (.39 in.).

    Note: For an outdoor installation ensure that the four (4) 3.97 mm I.D. by Ø1.78 mm O-rings are threaded onto the four (4) M4 or #10 user-supplied pan head screws. Refer to step 5.

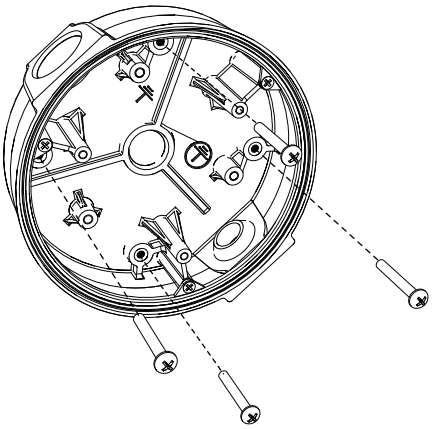


Figure 4.7 Attach surface mount to ceiling

11. Route the external wires through the conduit and into the Surface Mount Junction Box.

CAUTION!
All wires for installation applications must be routed through a grounded conduit.

12. Secure the mounting plate to the Surface Mount Junction Box with the three (3) M4 – .7 x 8 Phillips pan head machine screws.

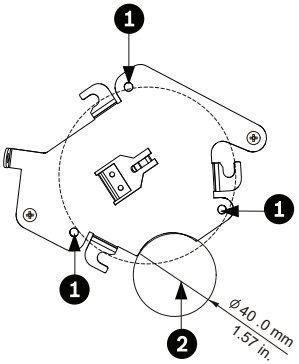


Figure 4.8 Install the Mounting Plate

1	Junction Box Holes
2	Cable Hole (40 mm maximum); Crescent Shape

13. Skip to *Section 4.1.4 Installing the Camera to the Mounting Plate, page 28*, to continue the installation.

4.1.4 Installing the Camera to the Mounting Plate

To install the camera to the mounting plate for a surface or suspended ceiling, do the following (certain steps contain additional information for outdoor installations):

1. Route wires on side of mounting plate with crescent shaped cut-out (Ref. #2 *Figure 4.3*).
2. Attach grounding wire from unit to junction box (see *Figure 4.10*).
3. Attach user supplied ground to junction box.
4. Connect the mating connectors with the flying leads to the user supplied wiring (see *Section 8 Preparing the Wiring, page 61* for wiring information).
5. Unlock the single safety locking screw on the base of the unit using the user-supplied Allen wrench.

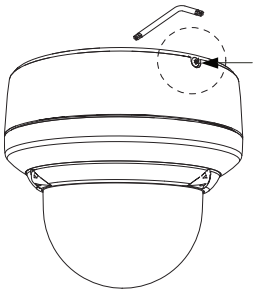


Figure 4.9 Unlock Safety Locking Screw

6. Plug the matching connectors from the camera into the mating connectors from the ceiling.

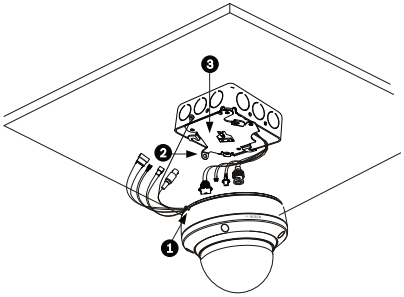


Figure 4.10 Connect Cables

1	Locking Screw
2	Vertical Tab
3	Mounting Plate

7. Align wires on side of mounting plate with crescent shaped cut-out.
8. Attach the camera to the mounting plate by inserting the vertical tab into the recessed slot on the top of the camera dome to the right of the safety locking screw.

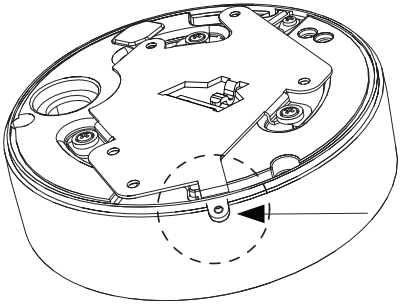


Figure 4.11 Attach Safety Locking Screw

9. Rotate the camera approximately 15 degrees to the right and lock firmly into place, as shown in the next illustration. Note: Do not loosen brass mounting buttons.

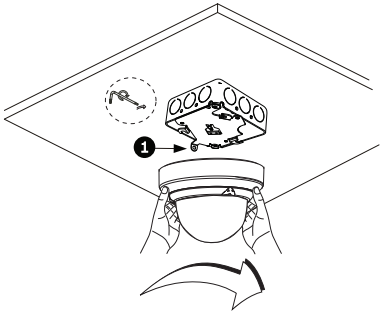
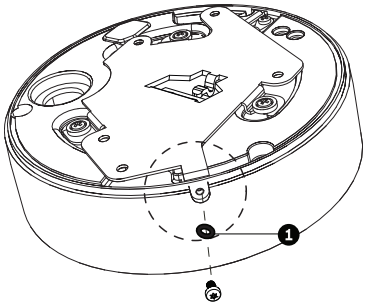


Figure 4.12 Attach Dome to Mounting Plate

1	Vertical tab

10. **Outdoor Installation**: Thread the 2.89 mm I.D. by Ø1.78 mm O-ring (item 1, below) onto the Safety Screw.



11. Secure the safety locking screw with the user supplied locking torx wrench (T-10).

5 Installing a Wall Mount

5.1 Description

This chapter details how to mount the AutoDome Easy II to a wall. The AutoDome Easy II is also suitable for surface (*Section 4 Installing a Surface Mount, page 21*), recess (*Section 6 Installing a Recessed Mount, page 42*), and pipe mounting (*Section 7 Installing a Pipe Mount, page 50*). For specific directions on mounting the unit, see the manual that came with your mount.

For an outdoor installation you must obtain the gaskets and O-rings supplied with an AutoDome Easy II Outdoor Camera to ensure a water-tight environment inside the unit and to maintain an IP Environmental Protection Rating. Refer to *Section 5.1.3 Preparing the Wall Mount for an Outdoor Installation, page 34*, to start an outdoor installation.

NOTICE!

The image sensors in modern CCD cameras are highly sensitive and require special care for proper performance and extended lifetime. Follow the guidelines for optimum results with your camera:

- Do not expose to direct sunlight or bright spotlights in operating and nonoperating conditions.
- Avoid bright lights in the field of view of the camera. Bright lights cause a “smearing” effect, which is visible as white lines above and below the highlight. Prolonged exposure to bright lights may cause bleaching of the sensor's color filters. This will be visible as colored spots in the picture and is irreversible.

5.1.1 Additional Tools Required

- Appropriate straight slot screwdrivers
- No. 2 Phillips screwdriver
- Appropriate tool for cutting a hole in drywall or ceiling tile (if applicable)
- T-10 Torx wrench
- AutoDome Easy II Outdoor Camera, required for an outdoor installation

5.1.2 Preparing the Wall Mount for an Indoor Installation

Use the following instructions To mount to an indoor wall. To use the Wall Mount in an outdoor application refer to *Section 5.1.3 Preparing the Wall Mount for an Outdoor Installation, page 34*.

1. Determine a secure location for the wall mount (supplied separately).

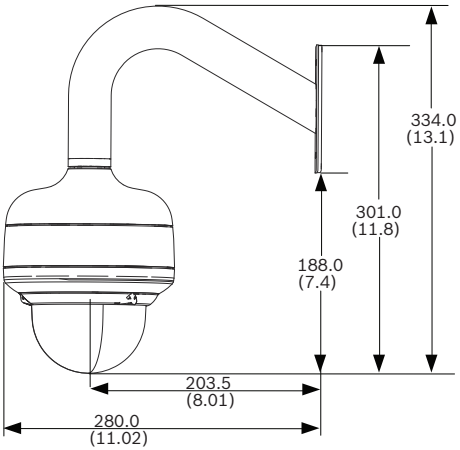


Figure 5.1 Wall Mount Dimensions

2. Fit a user-provided metal single-gang junction box to the wall.

3. Attach a grounded metal conduit to the junction box clamp.

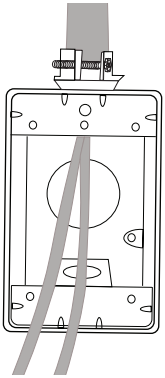


Figure 5.2 Metal Conduit

4. Feed the wires through the conduit.
5. Feed all wires from the metal junction box through the arm.
6. Attach the mounting cap to the arm.
7. Fit the arm to a metal single-gang junction box.

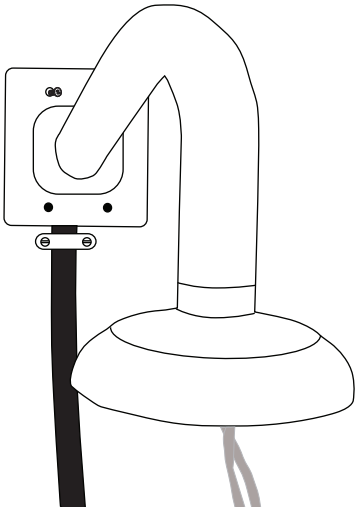


Figure 5.3 Fit to Gang Junction Box

8. Secure with the appropriate user-provided SEMS screws that have an integral lock washer to dig through the paint and ensure an electrical ground connection to the arm housing or ground lug.

NOTICE!
The metal junction box and mounting surface must be capable of supporting a maximum load of 11.33 kg (25 pounds).

9. Skip to *Section 5.1.4 Installing the Camera to the Mounting Plate, page 38*, to continue the installation.

5.1.3 Preparing the Wall Mount for an Outdoor Installation

The following instructions detail the surface preparations and the steps to install the Wall Mount for an outdoor application.

1. Determine a secure location for the wall mount (supplied separately).

NOTICE!
The fasteners and mounting surface must be capable of supporting a maximum load of 11.33 kg (25 pounds).

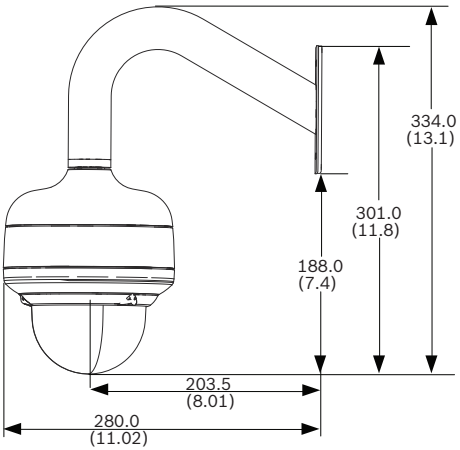
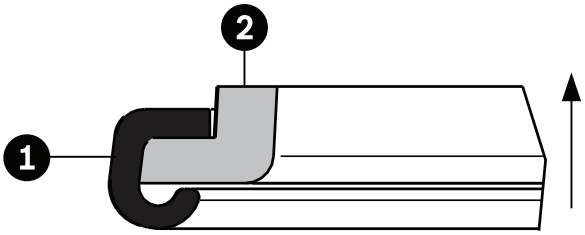


Figure 5.4 Wall Mount Dimensions

2. Use the four (4) holes at the end of the Wall Mount as a template to mark the position where the holes should be drilled to secure the mount.
3. Drill the four (4) holes in the installation location, screws not supplied. Use a minimum screw length of 10 mm (.39 in.).
4. Drill a fifth hole (maximum of 20 mm) in the center of the four-hole pattern used to mount the arm.
5. Ensure that the gasket is attached to the retaining ring. If the gasket and the retaining ring are separate:
   a. Locate the flat side of the gasket and the recessed side of the retaining ring.
   b. Thread the flat side of the gasket (item 1, below) onto the recessed side of the retaining ring (item 2). The illustration below shows a cross-section of the gasket on the retaining ring.



CAUTION!
You must ensure that the gasket is attached to the retaining ring as shown above to ensure an environmentally tight seal.

6. Attach the mounting cap to the arm. Using the AutoDome Easy II Outdoor Installation Kit, apply the following O-ring and the retaining ring to the locations specified below:

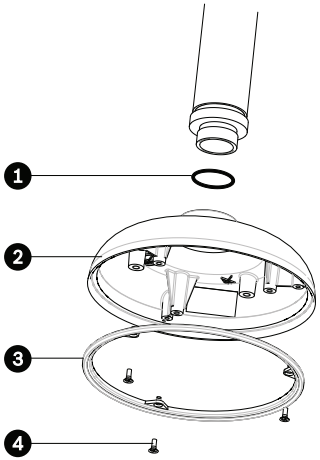


Figure 5.5 O-ring and retaining ring for outdoor installation

1	O-ring; 21.82 mm I.D. by Ø3.00 mm
2	Dome Cap
3	Retaining ring with gasket
4	M3 – .5 x 6 Phillips flat head machine screws

   a. Thread the 21.82 mm I.D. by Ø3.00 mm O-ring (item 1, above) onto the lower arm threads.
   b. Secure the retaining ring gasket (item 3, above) to the dome cap with the three (3) M3 – .5 x 6 Phillips flat head machine screws. Ensure that the side of the retaining ring with the counter-sunk screw holes is facing you.
   c. Attach the dome cap to the arm mount.
7. Feed the wires through the hole in the surface, through the wall mount flat gasket (item 1, *Figure 5.6*) and then through the arm.

CAUTION!
All wires for installation applications must be routed through a grounded conduit.

8. Place the Wall Mount flat gasket (item 1, below), between the surface and Wall Mount; then secure the mount using four (4) appropriate user-provided fasteners such as Moly or Toggle bolts. The flat gasket is supplied with the AutoDome Easy II Outdoor Camera.

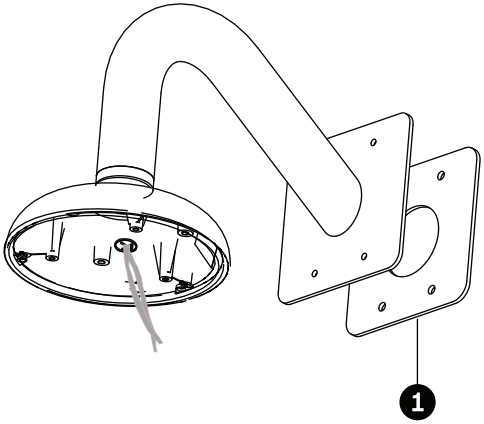


Figure 5.6 Secure arm to wall with flat gasket

9. Skip to *Section 5.1.4 Installing the Camera to the Mounting Plate, page 38*, to continue the installation.

5.1.4 Installing the Camera to the Mounting Plate

To install the camera to the mounting plate, do the following:

1. Attach the mounting plate (supplied with dome) to the dome mounting cap with the three (3) screws supplied.

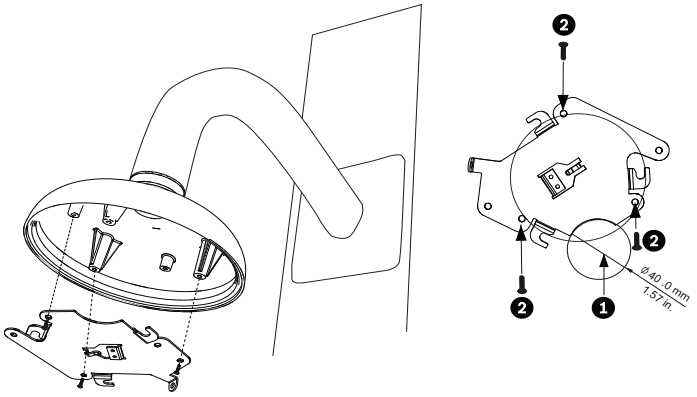


Figure 5.7 Attach Mounting Plate to Dome Cap

1	Cable Hole (40 mm maximum; Crescent Shape
2	Mounting Screws for Dome Cap

2. Route wires on side of mounting plate with crescent shaped cut-out (Ref. #2 *Figure 5.7*).
3. Attach grounding wire from unit to the mounting cap (see *Figure 5.9*).
4. Attach user supplied ground to junction box.
5. Connect the mating connectors with the flying leads to the user supplied wiring (see the *Section 8 Preparing the Wiring, page 61* for wiring information).

6. Unlock the single safety locking screw on the base of the unit using the user-supplied Allen wrench.

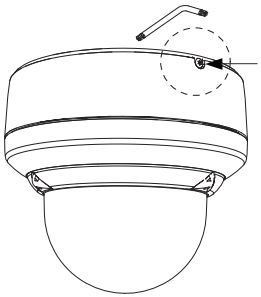


Figure 5.8 Unlock Safety Locking Screw

7. Plug the matching connectors from the camera into the mating connectors from the ceiling.

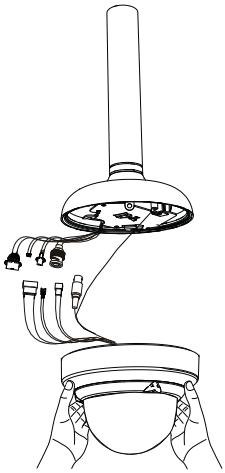


Figure 5.9 Connect Cables

8. Align wires on side of mounting plate with crescent shaped cut-out.

9. Attach the camera to the mounting plate by inserting the vertical tab into the recessed slot on the top of the camera dome to the right of the safety locking screw.

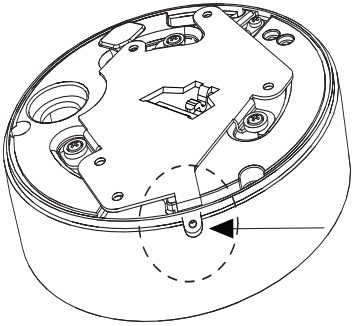


Figure 5.10 Safety Locking Screw

10. Rotate the camera approximately 15 degrees to the right and lock firmly into place, as shown in the next illustration. Note: Do not loosen brass mounting buttons.

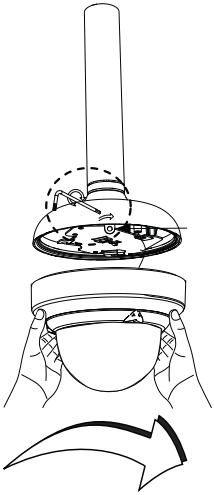
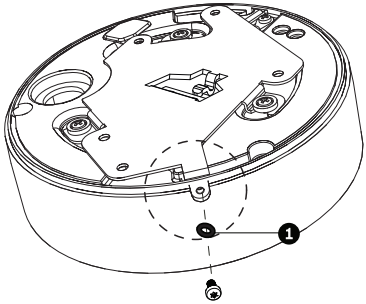


Figure 5.11 Attach Dome to Mounting Plate

11. **Outdoor Installation**: Thread the 2.89 mm I.D. by Ø1.78 mm O-ring (item 1, below) onto the Safety Screw.



12. Secure the safety locking screw with the user supplied locking torx wrench (T-10).
13. Pull excess wire back into the mount tube.
14. Confirm that the housing is electrically grounded.

6 Installing a Recessed Mount

6.1 Description

This chapter details how to recess mount the AutoDome Easy II. The AutoDome Easy II is also suitable for surface (*Section 4 Installing a Surface Mount, page 21*), wall (*Section 5 Installing a Wall Mount, page 31*), and pipe mounting (*Section 7 Installing a Pipe Mount, page 50*). For specific directions on mounting the unit, see the manual that came with your mount.

NOTICE!

The image sensors in modern CCD cameras are highly sensitive and require special care for proper performance and extended lifetime. Follow the guidelines for optimum results with your camera:

- Do not expose to direct sunlight or bright spotlights in operating and nonoperating conditions.
- Avoid bright lights in the field of view of the camera. Bright lights cause a “smearing” effect, which is visible as white lines above and below the highlight. Prolonged exposure to bright lights may cause bleaching of the sensor's color filters. This will be visible as colored spots in the picture and is irreversible.

6.1.1 Additional Requirements

- Appropriate straight slot screwdrivers
- No. 2 Phillips screwdriver
- Appropriate tool for cutting a hole in drywall or ceiling tile (if applicable)
- 4 in. x 4 in. junction box (optional)
- T-10 Torx wrench
- LTC 9349MK mounting kit (optional)

6.1.2 Preparing the Ceiling for Installation

To mount to a recess mount, do the following:

1. Determine a secure location for the recessed mount (supplied separately).

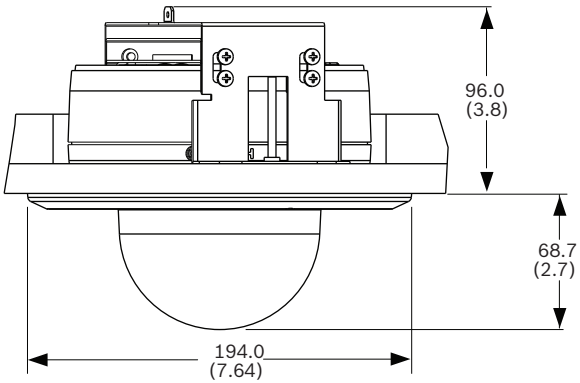
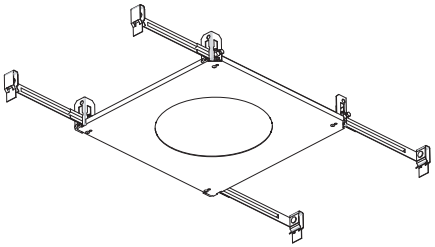


Figure 6.1 Recess Mount Dimensions

2. Drill or cut a 7 in. hole with a tolerance of +/- 1/8 in. (177.8 mm +/- 2.2 mm).
3. Optional: if installing the AutoDome Easy II to a suspended ceiling tile or any other surface where additional support is required, the LTC 9349MK mounting kit is recommended (supplied separately). See the instruction book supplied with the mounting bracket for installation instructions.



4. Align holes of mounting plate (supplied with dome) with mounting bracket and attach with screws (see Figure 1.3). Ensure that both the crescent shape of the mounting plate and the crescent shape of the mounting bracket are aligned.

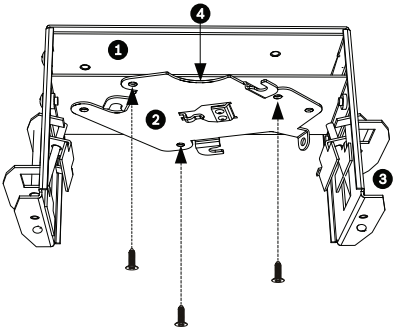


Figure 6.2 Attach Mounting Plate to Mounting Bracket

1	Mounting Bracket
2	Mounting Plate
3	Clamping Plate
4	Crescent Shape

5. Ensure clamping plates are angled inward by pushing up and into the two slots. Bracket with plate should be in the lower position for AutoDome Easy II analog models.

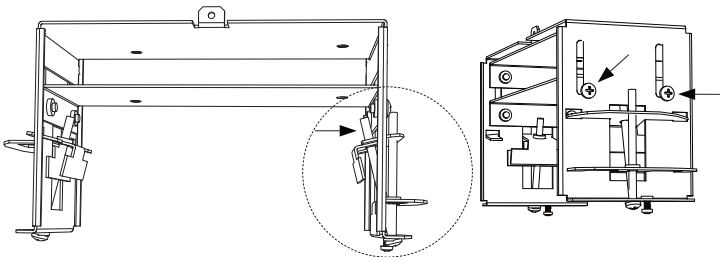
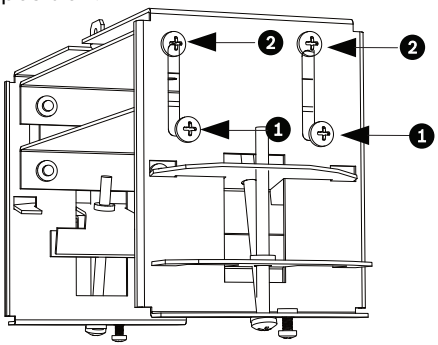


Figure 6.3 Adjust Mounting Clamps

6. **For AutoDome Easy II IP models**: Adjust the clamping plate so that the bracket with plate is in the upper position.



   a. Loosen the two screws (position 1) on each side of the clamping plate.
   b. Move the screws to the upper position (position 2) and tighten.

7. Insert mount through the hole and into the ceiling. Slide clamps out and down so that the drywall is clamped in between the clamps and the bracket flange (41.7 mm (1.64 in.) maximum ceiling thickness and 12.7 mm (0.50 in.) minimum ceiling thickness).

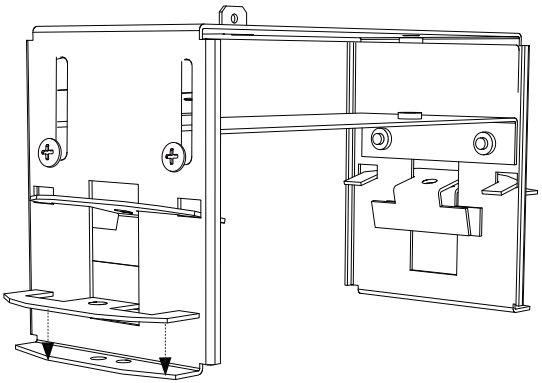


Figure 6.4 Attach Recess Mount to Ceiling

8. Tighten both clamps to the ceiling using supplied screws and a #2 Phillips screwdriver.

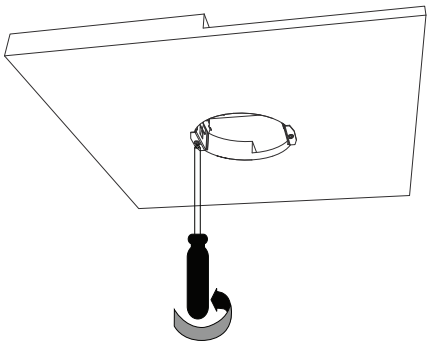


Figure 6.5 Tighten Mounting Clamps

NOTICE!

Over torquing the ceiling clamps can damage the clamp or ceiling. Only tighten the clamp until it contacts the ceiling and you start to feel some resistance. If using a power screwdriver, set the torque level to the lowest setting.

6.1.3 Installing the Camera to the Mounting Plate

To install the base to a surface or suspended ceiling using the supplied mounting plate, do the following:

1. Use supplied T-10 key to loosen (do not completely remove) the three (3) screws on dome bubble. Remove trim ring and set aside.
2. Re-tighten screws.
3. Route wires on side of mounting plate with crescent shaped cut-out (Ref. #4 Figure 1.2).

CAUTION!

All wires for installation applications must be routed through a grounded conduit.

4. Attach grounding wire from unit to the mounting bracket.
5. Attach user supplied ground to junction box.

6. Connect the mating connectors with the flying leads to the user supplied wiring (see the *Section 8 Preparing the Wiring, page 61* for wiring information).
7. Remove the single safety locking screw on the base of the unit using the user-supplied Allen wrench.

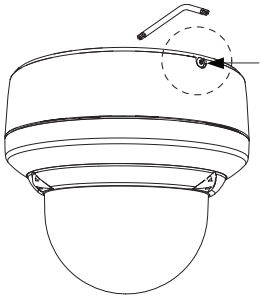


Figure 6.6 Unlock Safety Locking Screw

8. Plug the matching connectors from the camera into the mating connectors from the ceiling.

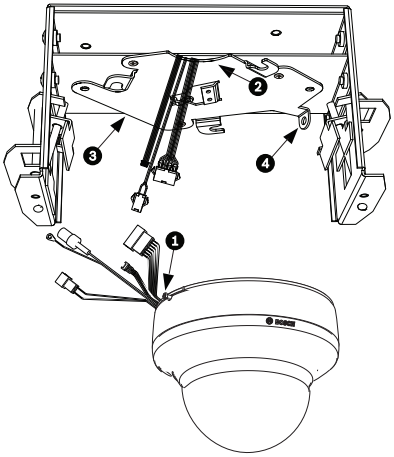


Figure 6.7 Match Connectors

1	Locking Screw
2	Crescent Shape
3	Mounting Plate
4	Vertical Tab

9. Align wires on side of mounting plate with crescent shaped cut-out.
10. Attach the camera to the mounting plate by inserting the vertical tab into the recessed slot on the top of the camera dome to the right of the safety locking screw.

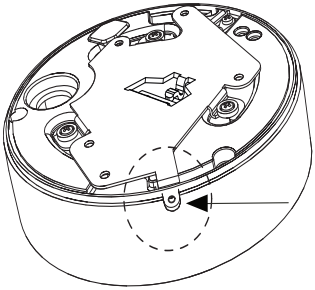


Figure 6.8 Attach Safety Locking Screw

11. Rotate the camera approximately 15 degrees to the right and lock firmly into place, as shown in the next illustration. Note: Do not loosen brass mounting buttons.

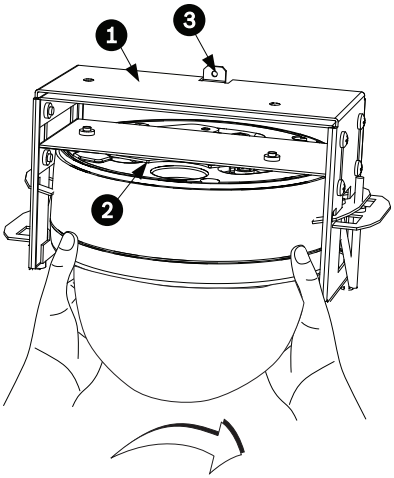


Figure 6.9 Attach Dome to Mounting Plate

1	Recess Mounting Bracket
2	Mounting Plate
3	Mounting Bracket Tether Point

12. Ensure unit is centered.

NOTICE!
The recessed mounting bracket is provided with a an additional safety tether point. To prevent injury, attach a safety wire from a secure anchor point above the ceiling to this tether point.

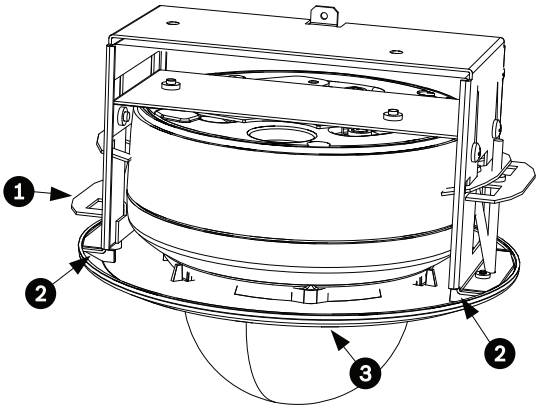


Figure 6.10 Align Trim Ring

1	Clamp
2	Stand-offs
3	Trim Ring

13. Align trim ring so screws align with off center holes.
    Note: The two (2) sets of raised stand-offs on each side of the trim ring align with the locking clamps.
14. Use supplied T-10 wrench to secure the trim ring's two (2) safety locking screws to the mounting bracket.
15. Snap trim ring into place. Ensure snaps are secure by attempting to lightly turn unit. Note: Unit should not turn.

7 Installing a Pipe Mount

7.1 Description

This chapter details how to mount the AutoDome Easy II to a pipe. The AutoDome Easy II is also suitable for surface (*Section 4 Installing a Surface Mount, page 21*), wall (*Section 5 Installing a Wall Mount, page 31*), and recess mounting (*Section 6 Installing a Recessed Mount, page 42*). For specific directions on mounting the unit, see the manual that came with your mount.

For an outdoor installation you must obtain the gaskets and O-rings supplied with an AutoDome Easy II Outdoor Camera to ensure a water-tight environment inside the unit and to maintain an IP Environmental Protection Rating.

NOTICE!

The image sensors in modern CCD cameras are highly sensitive and require special care for proper performance and extended lifetime. Follow the guidelines for optimum results with your camera:

- Do not expose to direct sunlight or bright spotlights in operating and nonoperating conditions.
- Avoid bright lights in the field of view of the camera. Bright lights cause a “smearing” effect, which is visible as white lines above and below the highlight. Prolonged exposure to bright lights may cause bleaching of the sensor's color filters. This will be visible as colored spots in the picture and is irreversible.

7.1.1 Tools/Supplies Required

- Appropriate straight slot screwdrivers
- No. 2 Phillips screwdriver
- Appropriate tool for cutting a hole in drywall or ceiling tile (if applicable)
- Ground Lug (outdoor use only)
- T-10 Torx wrench
- AutoDome Easy II Camera, required for an outdoor installation

7.1.2 Preparing the Ceiling for Installation

The following instructions detail the preparation necessary to prepare the surface and the steps to install a pipe mount. Certain steps contain additional information for outdoor installations.

1. Determine a secure hard surface location for the ceiling pipe mount (supplied separately).

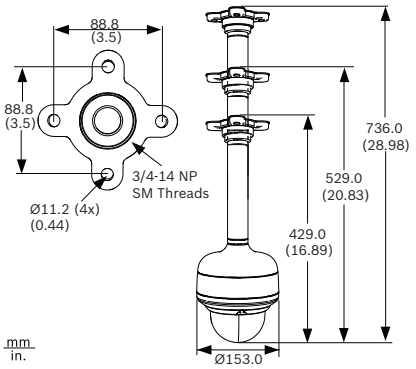


Figure 7.1 Pipe Mount Dimensions

2. Use the four (4) holes in the flange as a template to mark the position where the holes should be drilled to secure the mount.

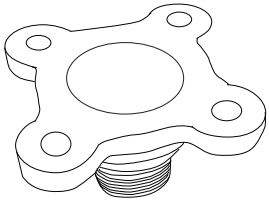


Figure 7.2 Mark Flange Holes

3. Drill the four (4) holes in the installation location (screws not supplied, use a minimum screw length of 10 mm (.39 in.)).

CAUTION!
All wires for installation applications must be routed through a grounded conduit.

4. Drill a fifth hole (maximum of 20 mm) in the center of the four-hole pattern used to mount the flange. Use this hole to feed the wires through the mount.
5. Fit the flange (supplied) to the pipe.
   Note: Select the pipe length of 200 mm (7.9 in.), 300 mm (11.8 in.), or combine the two (2) pipes with the integral coupler for 505 mm (20 in.).
   Outdoor Installation: Apply the following O-rings (supplied with the AutoDome Easy II Outdoor Camera) to the locations specified below:

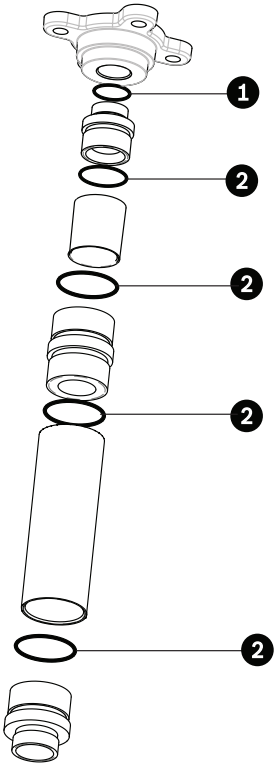


Figure 7.3 Location of O-rings for an outdoor installation

1	O-ring; 21.82 mm I.D. by Ø3.00 mm
2	O-ring; 29.74 mm I.D. by Ø3.00 mm

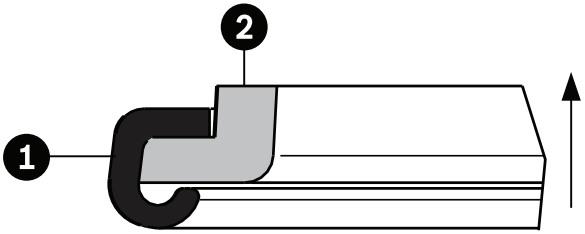
a. Thread a 21.82 mm I.D. by Ø3.00 mm O-ring (item 1, above) between the flange threads and the upper coupler threads.

b. Thread a 29.74 mm I.D. by Ø3.00 mm O-ring (item 2, above) between any interface between a pipe and a coupler.

6. **Outdoor Installation**: Ensure that the gasket is attached to the retaining ring. If the gasket and the retaining ring are separate:

   a. Locate the flat side of the gasket and the recessed side of the retaining ring.

b. Thread the flat side of the gasket (item 1, below) onto the recessed side of the retaining ring (item 2). The illustration below shows a cross-section of the gasket on the retaining ring.



CAUTION!
You must ensure that the gasket is attached to the retaining ring as shown above to ensure an environmentally tight seal.

7. Fit the dome cap to the bottom of the pipe.
Outdoor Installation: Apply the following O-ring and the retaining ring (supplied with the AutoDome Easy II Outdoor Camera) to the locations specified below:

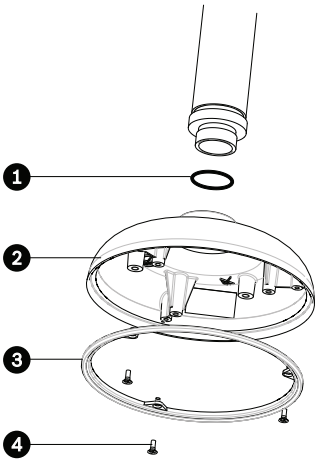
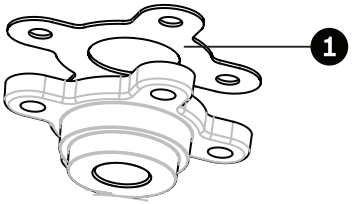


Figure 7.4 O-ring and retaining ring for outdoor installation

1	O-ring; 21.82 mm I.D. by Ø3.00 mm
2	Dome Cap
3	Retaining ring with gasket
4	M3 – .5 x 6 Phillips flat head machine screws

a. Thread the 21.82 mm I.D. by Ø3.00 mm O-ring (item 1, above) onto the lower pipe threads.
b. Secure the retaining ring gasket (item 2, above) to the dome cap with the three (3) M3 – .5 x 6 Phillips flat head machine screws. Ensure that the side of the retaining ring with the counter-sunk screw holes is facing you.

8. Secure the flange using four (4) appropriate user-provided fasteners such as Moly or Toggle bolts.
Outdoor Installation: Place the flat gasket (item 1, below) between the flange and the surface before securing.



NOTICE!
The fasteners and mounting surface must be capable of supporting a maximum load of 11.33 kg (25 pounds).

9. Pull the wires from the pipe, starting at the flange end.

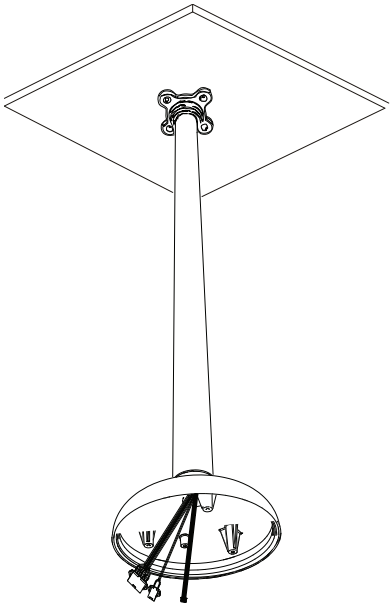


Figure 7.5 Attach Pendant Pipe Mount to Ceiling

CAUTION!
Select a rigid mounting location to prevent excessive vibration to the AutoDome Easy II Camera.

10. Attach user supplied ground lug.

11. Align holes of mounting plate (supplied with dome) with dome mounting cap and attach with the three (3) screws supplied (Figure 1.6).

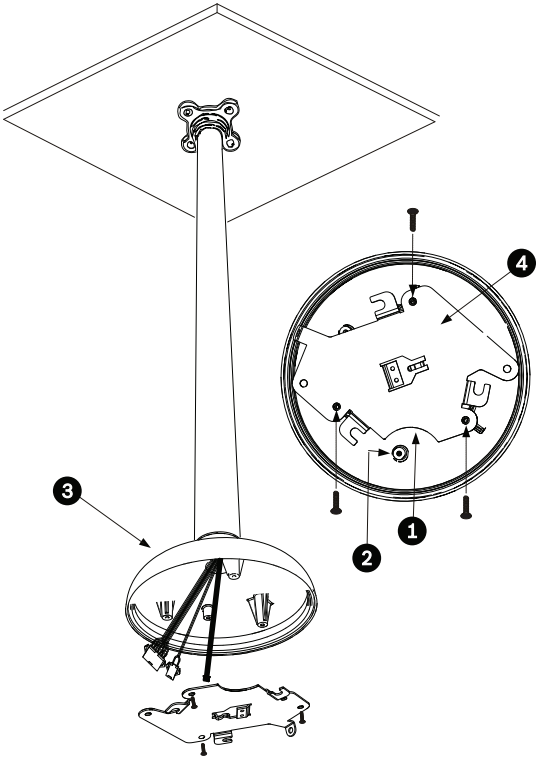


Figure 7.6 Attach Mounting Plate to Dome Cap

1	Crescent Shape
2	Ground Lug
3	Dome Cap
4	Mounting Plate

7.1.3 Installing the Camera to the Mounting Plate

To install the camera to a ceiling mount using the supplied mounting plate, do the following:

1. Route wires on side of mounting plate with crescent shaped cut-out (Ref. #1 Figure 1.6).
2. Attach grounding wire from unit to mounting cap.
3. Attach user supplied ground to junction box.
4. Connect the mating connectors with the flying leads to the user supplied wiring (see the *Section 8 Preparing the Wiring, page 61* for wiring information).
5. Unlock the single safety locking screw on the base of the unit using the user-supplied Allen wrench.

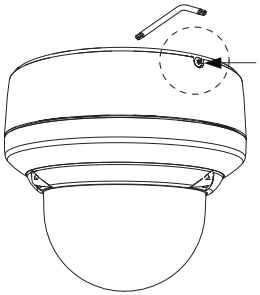


Figure 7.7 Unlock Safety Locking Screw

6. Plug the matching connectors from the camera into the mating connectors from the ceiling.
7. Align wires on side of mounting plate with crescent shaped cut-out.

8. Attach the camera to the mounting plate by inserting the vertical tab into the recessed slot on the top of the camera dome to the right of the safety locking screw.

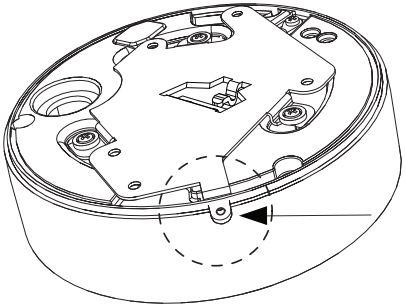


Figure 7.8 Safety locking screw location

9. Rotate the camera approximately 15 degrees to the right and lock firmly into place, as shown in the next illustration. Note: Do not loosen brass mounting buttons.

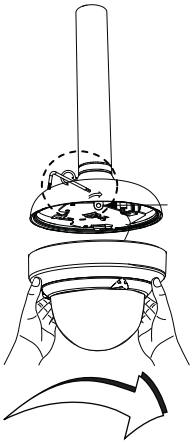
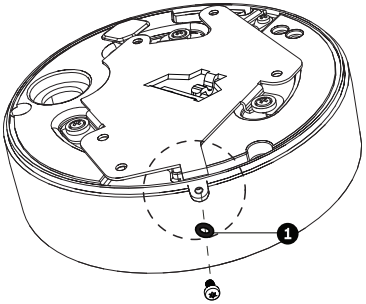


Figure 7.9 Attach Dome to Mounting Plate

10. **Outdoor Installation**: Thread the 2.89 mm I.D. by Ø1.78 mm O-ring (item 1, below) onto the Safety Screw.



11. Secure the safety locking screw with the user supplied locking torx wrench (T-10).
12. Pull excess wire back into the mount tube.
13. Confirm that the housing is electrically grounded.

8 Preparing the Wiring

The wiring requirements for the various AutoDome Easy II models differ slightly. There are four (4) types of wires: control, video, power, and alarm, and each model has different wiring requirements. Each section provides the specifications for the recommended wire.

CAUTION!
Installation should only be performed by qualified service personnel in accordance with the National Electrical Code or applicable local codes.

CAUTION!
All wires for installation applications must be routed through a grounded conduit.

8.1 Power

The recommended power cable is a 2-conductor, 14-18 gage cable, depending on the distance.

	VA / Watts	14 AWG (2.5 mm)	16 AWG (1.5 mm)	18 AWG (1.0 mm)
Camera, Indoor models				
24 VAC to AutoDome Easy II	18 / 10	632 ft (193 m)	398 ft (121 m)	250 ft (76 m)
12 VDC to AutoDome Easy II	10 W	285 ft (87 m)	179 ft (55 m)	112 ft (34 m)
Camera and Heater, Outdoor models only				
24 VAC to AutoDome Easy II	18 / 10	632 ft (193 m)	398 ft (121 m)	250 ft (76 m)
24 VAC to Heater	25 / 25	455 ft (139 m)	287 ft (67 m)	180 ft (55 m)

Table 8.1 Max. Wire Distances from Power Supply to AutoDome Easy II

8.2 Connecting the Power

The AutoDome Easy II is available as an indoor or as an outdoor model. All indoor models contain a single power connector for the camera.
The outdoor models contain two isolated power connectors, one for the camera (red and black wires) and one for the heater (white/red and white/black wires).

NOTICE!
Use certified / Listed Class 2 power supply transformer only.

Determining Power Connections
The table below summarizes the necessary power connections for indoor and outdoor analog models. Use the table to identify the necessary connections and for direction to the proper section.

Model	Connection	Refer to
Analog		
Indoor	24 VAC / 12 VDC	*Section 8.2.1 Power Connections to Indoor Cameras, page 62*
Outdoor	24 VAC	*Section 8.2.2 Power Connections to Outdoor Cameras, page 63*
	24 VAC to heater	*Section 8.2.3 Power Connections to Heater (all outdoor models), page 64*

8.2.1 Power Connections to Indoor Cameras

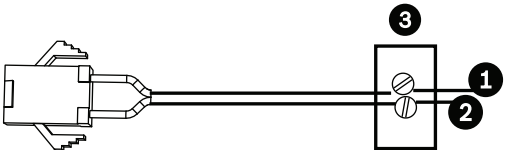


Figure 8.1 Power Cable

Ref. #	Wire	Color
1	24 VAC / +12 VDC	Red
2	24 VAC/GND	Black
3	User supplied Power Supply	n/a

NOTICE!
The camera unit accepts 24 VAC or 12 VDC, 1 A power only. Do not connect 120 V or 230 V to this camera.

To connect the power to indoor models:

1. Locate the cable assembly with a three (3) pin mating connector on one end and the red and black flying leads on the other end.
2. Connect one lead of the ground or 24 VAC power source to the black wire.
3. Connect one lead of the 24 VAC or the 12 VDC power source to the red wire.
4. Connect the green earth ground cable to a suitable grounded conduit.

8.2.2 Power Connections to Outdoor Cameras

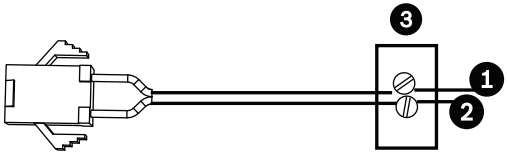


Figure 8.2 Power Cable

Ref. #	Wire	Color
1	24 VAC	Red
2	24 VAC	Black
3	User supplied Power Supply	n/a

NOTICE!
The camera unit accepts 24 VAC, 1 A power only. Do not connect 120 V or 230 V to this camera.

To connect the power to outdoor models:

1. Locate the cable assembly with a three (3) pin mating connector on one end and the red and black flying leads on the other end.
2. Connect one lead of the 24 VAC power source to the black wire.

3. Connect the other lead of the 24 VAC power source to the red wire.
4. Connect the green earth ground cable to a suitable grounded conduit.

8.2.3 Power Connections to Heater (all outdoor models)

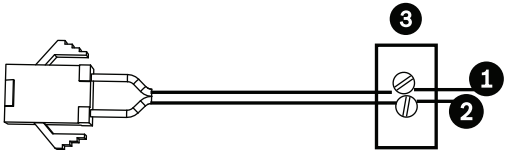


Figure 8.3 Power Cable

Ref. #	Wire	Color
1	24 VAC	White/Red
2	24 VAC	White/Black
3	User supplied Power Supply	n/a

NOTICE!
The heater unit accepts 24 VAC, 1 A power only. Do not connect 120 V or 230 V to this heater.

To connect the power to outdoor heaters:

1. Locate the cable assembly with a three (3) pin mating connector on one end and the white/red and white/black flying leads on the other end.
2. Connect one lead of the 24 VAC power source to the white/black wire.
3. Connect the other lead of the 24 VAC power source to the white/red wire.

8.3 Video and Bilinx Cables

Coaxial Cable/Bilinx

Coaxial cable terminated with BNC connectors is the most common method for transmitting composite video. Bilinx control data can also be sent over the same cable.
Bilinx is a Bosch 2-way communication protocol that allows remote control, configuration, and updates over a video coax cable. Bilinx is available on all AutoDome Easy II units.

	Recommended Coax Specifications
Size	O.D. between 4.6 mm (0.181 in.) and 7.9 mm (0.312 in.)
Shield	Copper braid: 95%
Central Conductor	Standard copper center
Terminal Connector	BNC

	Cable Compensation Maximum Distances	
Cable Type	**With Pre-comp OFF**	**With Pre-comp ON**
RG-59/U	300 m (1000 ft)	600 m (2000 ft)
RG-6/U	450 m (1500 ft)	990 m (3000 ft)
RG-11/U	600 m (2000 ft)	1200 m (4000 ft)
Size	O.D. between 4.6 mm (0.181 in.) and 7.9 mm (0.312 in.)	
Shield	Copper braid: 95%	
Central Conductor	Standard copper center	
Terminal Connector	BNC	

8.4 Connecting the Video

Coaxial cable terminated with BNC connectors is the most common method for transmitting composite video. To connect the video, do the following:

1. Terminate the coaxial cable from the head end system with a male BNC connector.
2. Connect the male BNC connector to the Video Out female BNC connector from the base of the camera.

8.5 Control-only Cables

8.5.1 Biphase

Biphase (Shielded 2-wire, half-duplex, multi-drop, 5000 ft. cable limit) is the standard Bosch protocol used to send Pan/Tilt/Zoom control over 2-wire shielded twisted pair (STP) terminated with a 100 ohm terminal resistor.
The AutoDome Easy II has a 100 ohm termination resistor between the Biphase C (+) and C (-) terminals.

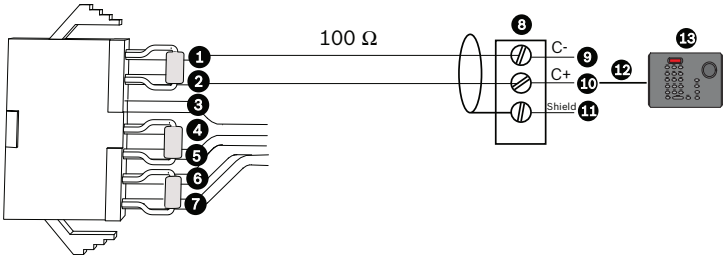
NOTICE!
The Biphase shield must be connected to the head end only.

Cable Type	STP - Shielded Twisted Pair
Distance	1524 m (5000 ft) Belden 8760 recommended
Transmission Rate	31.25 KHz
Gage	1.02 mm (18 AWG)
Termination	100 ohm
Terminal Connector	Screw terminals
Voltage	4 Vp-p

8.5.2 Direct Control

To connect the biphase configuration, do the following:

1. Locate the cable assembly with a seven (7) pin white mating connector on one end and the seven (7) flying leads on the other end.
2. Connect the biphase (+) from the controller to the yellow lead and secure.
3. Connect the biphase (-) from the controller to the white/ green lead and secure.
4. Connect shield of the cable to the Head End controller.



AutoDome Easy II				Head End	
Ref. #	**Wire**	**Color**		**Ref. #**	**Connection**
				8	Head End Controller Biphase (i.e. LTC 8786)
1	C (-)(Biphase)	White/Green		9	C (-)(Biphase)
2	C (+) (Biphase)	Yellow		10	C (+)(Biphase)
3	Ground	White/Orange		11	Shield
4	RS485 (+)	Blue		12	Keyboard Cable
5	RS485 (-)	White/Blue		13	Keyboard (i.e. LTC 5136)
6	Reserved	Violet			
7	Reserved	Gray			

8.5.3 Daisy Chaining

In a daisy chain configuration, where multiple domes are connected, the resistor must be removed for all but the last dome. The AutoDome Easy II can be daisy chained up to a maximum of four (4) domes. To daisy chain the unit, do the following prior to mounting the camera:

1. Remove the 100 ohm resistor by cutting both leads from all but the last dome.
2. Locate the cable assembly on the first camera with a seven (7) pin white mating connector on one end and the seven (7) flying leads on the other end.
3. Connect the biphase (+) from the controller to the first camera yellow lead and secure.
4. Connect the biphase (-) from the controller to the white/ green lead on the first camera and secure.
5. Connect the biphase (+) from the first camera yellow lead to the second camera yellow lead and secure.
6. Connect the biphase (-) from the first camera white/green lead to the second camera white/green lead and secure.
7. Repeat steps as required for up to four (4) cameras.

Daisy Chain Multiple Domes

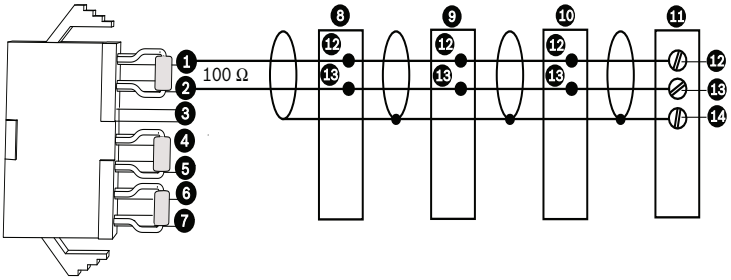


Figure 8.4 Connections for a Daisy Chain Configuration

AutoDome Easy II				Head End	
Ref. #	**Wire**	**Color**		**Ref. #**	**Connection**
				8	Dome 3
				9	Dome 2
				10	Dome 1
				11	Head End Biphase
1	C (-)(Biphase)	White/Green		12	C (-) (Biphase)
2	C (+)(Biphase)	Yellow		13	C (+) (Biphase)
3	Ground	White/Orange		14	Shield
4	RS485 (+)	Blue			
5	RS485 (-)	White/Blue			
6	Reserved	Violet			
7	Reserved	Gray			

8.5.4 RS485

RS485 (2-wire (shielded), half-duplex, differential, multi-drop (32 nodes), 4000 ft cable limit) RS485 is capable of controlling a true multi-drop network and is specified for up to 32 drivers and 32 receivers on a single 2-wire bus. The AutoDome Easy II uses the 2-wire mode, although RS485 can be connected in a 2- or 4-wire mode.

NOTICE!
The wire shield must be tied to signal at both ends, if 2-wire twisted pair is used.

CAUTION!

Bosch recommends that multiple RS485 connections be arranged as a connected series of point-to-point (multi-dropped) nodes, as a line or as a bus. It is **not** recommended to arrange RS485 connections as a star, ring or as a multiple-connected network. Star and ring topologies may cause signal reflections or excessively low or high termination impedence.

Wire Type	**2-wire Shielded Twisted Pair**
Distance	1219 m (4000 ft)
Maximum Baud Rate	57.6 kb
Gage	0.511 mm (24 AWG)
Impedance	120 Ω

The following figure illustrates the connections for RS485 connections.

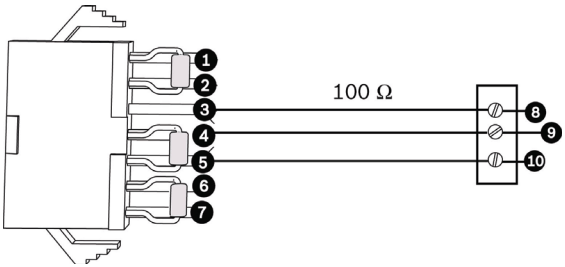


Figure 8.5 Connections for RS485 Operations

AutoDome Easy II				**Head End**	
Ref. #	**Wire**	**Color**		**Ref. #**	**Connection**
1	C (-) (Biphase)	White/Green			
2	C (+) (Biphase)	Yellow			
3	Ground	White/Orange		8	Head End RS485
4	RS485 (+)	Blue		9	Data (+)
5	RS485 (-)	White/Blue		10	Data (-)
6	Reserved	Violet		11	Ground
7	Reserved	Gray			

9 Alarms and Relay Connections

9.1 Alarm Input

The AutoDome Easy II provides two alarm inputs. Each input can be activated by dry contact devices such as pressure pads, passive infra-red detectors, door contacts, and similar devices. The AutoDome Easy II comes with the following alarm in/out cable.

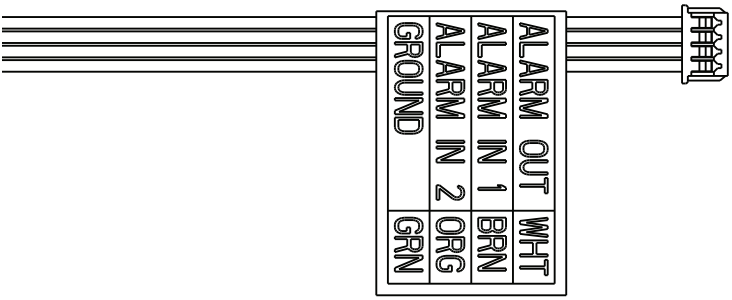


Figure 9.1 Four-wire Alarm In/Out Cable

Wire Color	Function
White	Alarm Out
Brown	Alarm In 1
Orange	Alarm In 2
Green	Ground

The table below summarizes the size and distance wires.

Wire Size		Maximum Distance	
AWG	mm	feet	meters
22	0.644	500	152.4
18	1.024	800	243.8

Table 9.1 Alarm Wire Guide

You wire alarms either Normally Open (N.O.) or Normally Closed (N.C.), and must program the alarm inputs N.O. (the default) or N.C. through the AutoDome Easy II main menu.

9.2 Connecting Alarms (inputs 1 through 2)

You can configure alarms 1 through 2 as Normally Open (N.O.) or Normally Closed (N.C.) alarms.

9.2.1 Connecting a Normally Open Alarm

1. Connect the alarm to the appropriate input (1 through 2) and ground at the AutoDome Easy II.

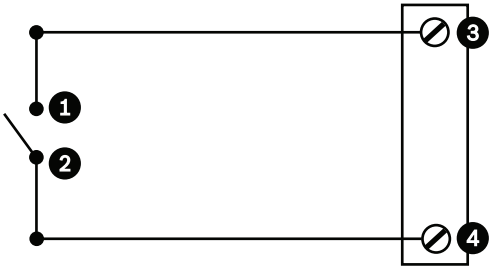


Figure 9.2 N.O. - Normally Open

Ref. #	User Contact	Dome	Color
1	Normally Open	Alarm In 1 or Alarm In 2 (Ref. #3)	Brown IN 1 or Orange IN 2
2	Common	Ground (Ref. #4)	Green

2. From the AutoDome Easy II main menu select Alarm Setup>Inputs Setup, and set Alarm Input # to N.O. See the table below for contact and condition details.

AutoDome Easy II Programmed N.O.	
Circuit	Alarm Indication
Open	Normal
Closed	Alarm

9.2.2 Connecting a Normally Closed Alarm

1. Connect the alarm to the appropriate input (1 through 2) and ground at the AutoDome Easy II.

Figure 9.3 N.C. Normally Closed Connections

Ref. #	User Contact	Dome	Color
1	Normally Closed	Alarm In 1 or Alarm In 2 (Ref. #3)	Brown IN 1 or Orange IN 2
2	Common	Ground (Ref. #4)	Green

2. From the AutoDome Easy II main menu select Alarm Setup>Inputs Setup, and set Alarm Input # to N.C. See the table below for contact and condition details.

AutoDome Easy II Programmed N.C.	
Circuit	Alarm Indication
Open	Alarm
Closed	Normal

9.3 Alarm Outputs

The AutoDome Easy II incorporates one (1) alarm output: a dry contact relay.

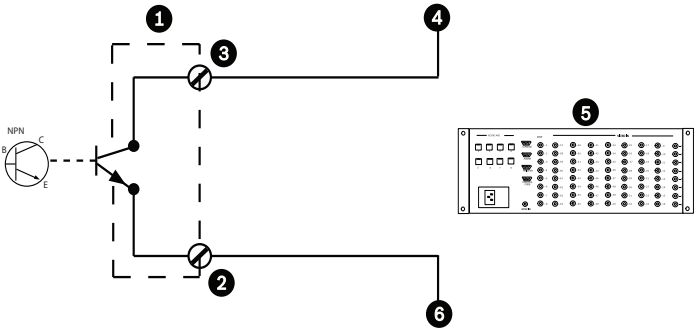


Figure 9.4 N.O. - Normally Open

Ref. #	Description	Color
1	Dome	n/a
2	Normally Open	White
3	Ground	Green
4	Alarm In	n/a
5	User Supplied Device (i.e. Allegiant or DVR)	n/a
6	Ground/Common	n/a

9.3.1 Connecting an Open Collector Output

Output 1 is an open collector. This output must be connected to a positive voltage between 5 and 32 V to complete the circuit, with a maximum voltage rating of 32 VDC @ 150 ma.

1. Connect the appropriate stripped wire to the open collector of the transistor's white wire.
2. Connect the appropriate stripped wire to the ground (GND) connector.

10 Getting Started

Once the installation is complete, the AutoDome Easy II can be programmed. A typical system includes a keyboard, matrix switcher, monitor, and appropriate wiring connections. Please refer to the individual product manuals for complete installation and setup instructions for each of the system components.

10.1 Powering On

When you turn the AutoDome Easy II power on there is a ten (10) second pause before the dome starts its homing phase. During the homing phase the camera pans left and right and tilts up and down. It also adjusts the lens focus. The entire homing phase lasts approximately 20 seconds and ends with a splash screen.

WARNING!
Before powering the dome on, remove the clear protective plastic sheet on top of the bubble.

10.2 Establishing AutoDome Easy II Control

The most common ways to interface with the AutoDome Easy II are:

- Using a keyboard and on-screen display (OSD) menus. This method is the most common and is covered in this manual (see *Section 8.5.2 Direct Control, page 67*).
- Using the AutoDome Easy II Configuration Tool software running on a PC with Bilinx communication protocol. Refer to the CTFID User Guide for instructions.
- Using a Digital Video Recorder (DVR) such as the Bosch Divar XF version 2.00 or higher.

10.2.1 Basic Keyboard Operation

The following tables summarize the basic operations for a standard keyboard and the functions available to control an AutoDome Easy II camera.

Typical Keyboard Features	Usage
Function Keys	Selects a specific control setting.
Number Keys	Inputs a number from 0 to 9.
Camera Key	Selects a camera number.
Enter Key	Inputs a selection.
Focus Key	Sets the lens focus or makes a menu selection in **OSD** mode.
Iris Key	Sets the lens iris setting or makes a menu selection in **OSD** mode.
Key LEDs	Indicates an active key.
LCD	Displays the current status.
Joystick	Controls a pan/tilt/zoom (PTZ) AutoDome Easy II camera.

Table 10.1 Typical Keyboard Functions

Dome Operation	How to control
To Pan Side to Side	Move the joystick left or right.
To Tilt Up and Down	Move the joystick forward and back.
To Zoom In	Twist the joystick clockwise.
To Zoom Out	Twist the joystick counterclockwise.

Table 10.2 Typical Keyboard Controls for an AutoDome Easy II Camera

10.2.2 Keyboard Commands

Keyboard control commands are composed of a sequence of three (3) inputs with the following convention: 1) a **Function** key + 2) a **Command** number key(s) + 3) the **Enter** key.

– Depending on the type of keyboard, the control function keys are labeled:
  ON or **AUX ON**
  OFF or **AUX OFF**
  SET or **SET SHOT**
  SHOT or **SHOW SHOT**

NOTICE!
The convention used for control key commands in this manual is **ON**, **OFF**, **SET**, and **SHOT**. Refer to your keyboard manual for the key naming conventions.

– Command numbers range from 1 to 999. See Keyboard Commands by Number for a complete list of keyboard commands.
– The **Enter** key can also be labeled with the 8 symbol.

For example, the keyboard command to make the AutoDome Easy II pan 360º continuously is:
ON-1-ENTER (press the **ON** key, then press the number **1** key, and then press **ENTER**). To stop the camera from panning, move the joystick in any direction.

10.3 Setting the Camera Address

Once the AutoDome Easy II power is turned on and homing is complete, you must set the camera address. You may also want to customize some of the AutoDome Easy II default settings.

NOTICE!
You do not need to set a camera address if using Bilinx.

10.3.1 FastAddress

FastAddress is an AutoDome Easy II feature that allows the user to set or change a camera address using the keyboard and on-screen menus.

There are three (3) **FastAddress** commands:

– **ON**-**999**-**ENTER**: Displays and programs all cameras without an address in the system.

NOTICE!
If a keyboard is set to a camera number that already has an address, that camera also responds to this command.

– **ON**-**998**-**ENTER**: Displays and programs all cameras with or without an address in the system.
– **ON**-**997**-**ENTER**: Displays the current address status of all cameras in the system simultaneously.

To set an address for a camera without an address:

1. Select the camera number you want to **FastAddress**. The system displays the camera number on the keyboard and the image on the corresponding monitor.
2. Press **#**-**ENTER** (where **#** is the camera number without an address).
3. Press **ON**-**999**-**ENTER** to invoke an on-screen display of cameras on the system without an address.
4. Follow the on-screen instructions. You receive an on-screen confirmation when the **FastAddress** is complete.

To change or clear an address for a camera with an address:

1. Select the camera number you want to **FastAddress**. The system displays the camera number on the keyboard and the image on the corresponding monitor.
2. Press **#**-**ENTER** (where **#** is the camera number with an address).
3. Press **ON**-**998**-**ENTER** to invoke an on-screen display of all cameras on the system, with or without an address.
4. Follow the on screen instructions. You receive an on-screen confirmation when the **FastAddress** is complete.

NOTICE!

FastAddress is stored in nonvolatile memory and does not change if the power is turned off or if the default settings are restored.

11 On-Screen Display Menu Navigation

The AutoDome Easy II is programmed through the on-screen display (OSD) menus. To access the **OSD** menus, you must open the main **Setup Menu**.
Menu items marked with an asterisk (*****) are default settings, unless otherwise noted.

Menu Navigation using an AutoDome Easy II IP
To navigate the OSD menus using an AutoDome Easy II IP, access the Aux Control tab on the Livepage to enter the appropriate Aux commands. Once an OSD menu is active, return to the View Control tab to move through the menu and to make selections.

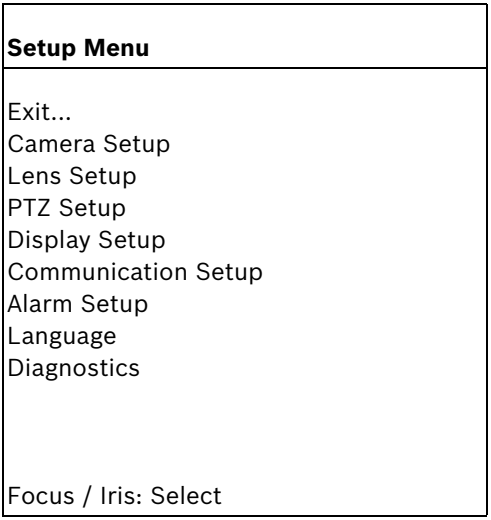
NOTICE!
After a period of 4.5 minutes of inactivity, a menu times-out and exits without warning. Some unsaved settings in the current menu can be lost.

11.1 Setup Menu

The main **Setup Menu** provides access to all programmable AutoDome Easy II settings. It is a locked menu that requires the user to turn off the command lock.

To open the main Setup Menu (locked command):
1. Press **OFF-90-ENTER** to turn off the command lock.
2. Press **ON-46-ENTER** to access the **Main Menu**.
3. Use the joystick to highlight a menu item.
4. Press **Focus/Iris** to open a menu.
5. Follow the on-screen instructions.

NOTICE! The AutoDome Easy II displays only those menus applicable to the AutoDome Easy II Series configuration. Use the joystick to navigate through the menu and the **Focus/Iris** keys to make a selection.
Time Saver Tip: Scrolling through menus can be time consuming; to quickly return to “exit” prompt, just twist the joystick or use the zoom in feature.



Setup Menu Choices:

Menu	Description
Exit	Saves user settings and clears the screen.
Camera Setup	Accesses adjustable camera settings such as: white balance, gain, sharpness, sync, line lock, backlight, shutter, and night mode.
Lens Setup	Accesses adjustable lens settings such as: focus, iris, zoom speed, and digital zoom.
PTZ Setup	Accesses adjustable pan/tilt/zoom (PTZ) settings such as: Autopan, tours, PTZ speed, inactivity period, AutoPivot, and tilt limits.
Display Setup	Accesses adjustable display settings such as: OSD, sector blanking, and masking.
Communication Setup	Accesses communication settings such as: AutoBaud and Bilinx.
Alarm Setup	Accesses the alarm settings such as: inputs, outputs, and rules.
Language	Displays the language.
Diagnostics	Displays the status of diagnostic events.

NOTICE! To select the **Exit Menu** item from anywhere in the current menu, use the Zoom command.

11.2 Camera Setup Menu

The **Camera Setup Menu** provides access to camera settings that can be changed or customized. Menu items marked with an asterisk (*****) are the default settings.

Camera Setup	
Exit...	
* White Bal:	EXT ATW
* Gain Control:	AUTO
* Max Gain Level:	6
* Sharpness	12
* Synch Mode:	Internal
* Line Lock Delay:	0
* Backlight Comp:	OFF
* Shutter Mode:	Auto SensUP
* Shutter:	1/60
* Auto SensUP Max:	15x
* Pre-Comp	1
Restore Defaults...	
* = Factory Setting	
Focus / Iris: Select	

Camera Setup Menu Choices:

Menu	Description	Sub-menu / Description	Default Setting
Exit	Exits the menu.		
White Balance	Maintains proper color reproduction as the color temperature of a scene changes. For example, from daylight to fluorescent lighting.	**Extended ATW**: Adjusts camera color using extended range. **ATW**: Adjusts camera color constantly. **Indoor W.B.**: Optimizes camera color for typical indoor conditions. **Outdoor W.B.**: Optimizes camera color for typical outdoor conditions. **AWB Hold**: Sets the camera's color settings for the current scene.	EXT ATW
Gain Control	Electronically brightens darker scenes which may cause graininess in low light scenes.	**Auto or OFF**	**AUTO**
Max Gain Level	Adjusts the maximum gain level that the gain control adjusts to when set to **AUTO**.	Sliding scale: – (0 to 6) + (1=8db, 2=12db, 3=16db, 4=20db, 5=24db, 6=28db)	**6**
Sharpness	Adjusts the sharpness level of the picture.	Sliding scale: – (0 to 16) +	12

Menu	Description	Sub-menu / Description	Default Setting
Synch Mode	Sets the type of synchronization mode for the camera.	**INTERNAL**: Synchronizes camera to an internal crystal. This choice is recommended if there is noise on the power line. **LINE LOCK**: Synchronizes camera to AC power. This choice eliminates picture roll in multi-camera systems.	INTERNAL
Line Lock Delay	Optimizes the **LINE LOCK** mode to eliminate picture roll in multi-phase power applications.	Sliding scale: – (0º to 359º) +	0º
Backlight Comp	Improves image quality when the background illumination level is high.	**ON or OFF**	**OFF**
Shutter Mode:	Turns Auto SensUP on or off.	**Auto SensUP or OFF**	**Auto SensUP**
Shutter	Adjusts the electronic shutter speed (AES).	Sliding scale: – (1/60 (1/50) at extreme left to 1/10000) +	**1/60 sec.** (NTSC) or **1/50 sec.** (PAL)

Menu	Description	Sub-menu / Description	Default Setting
Auto SensUP Max.	Sets the limit for sensitivity when the shutter speed is set to Auto SensUP.	**NTSC: 15x, 7.5x, 4x, or 2x** **PAL: 50x, 25x, 16.7x, 8.3x, 4x, or 2x**	**15x**
Pre-Comp (not applicable with AutoDome Easy II IP models)	Amplifies the video gain to compensate for long distance cable runs.	Sliding scale: –(1 to 10)+	**1**
Restore Defaults	Restores all default settings for this menu only.	Yes or No	

11.3 Lens Setup

The **Lens Setup Menu** provides access to lens settings that can be changed or customized. Menu items marked with an asterisk (*****) are the default settings.

Lens Setup

Exit...
* Auto Focus: SPOT
* Auto Iris: CONSTANT
* Auto Iris Level: 8
* Focus Speed: 2
* Iris Speed: 5
* Max Zoom Speed: FAST
* Digital Zoom: OFF
Restore Defaults

* = Factory Setting
Focus / Iris: Select

Lens Setup Menu Choices:

Menu	Description	Sub-menu / Description	Default Setting
Exit	Saves and exits the menu.		
Auto Focus	Automatically focuses on the subject in the center of the screen.	**MANUAL**: Auto Focus is inactive; manual focus must be used. **SPOT**: The camera activates Auto Focus after the camera stops movement. Once focused, Auto Focus is inactive until the camera moves again.	**SPOT**
Auto Iris	Automatically adjusts to varying light conditions.	**MANUAL**: Iris must be adjusted manually. **CONSTANT**: Auto Iris is constantly active.	**CONSTANT**
Auto Iris Level	Reduces the camera's iris level for proper exposure.	Sliding scale: – (1 to 15) +	**8**
Focus Speed	Adjusts the manual focus speed.	Sliding scale: – (1 to 8) +	**2**
Iris Speed	Adjusts the manual iris speed.	Sliding scale: – (1 to 10) +	**5**
Max. Zoom Speed	Adjusts the manual zoom speed.	**SLOW, MEDIUM, or FAST**	**FAST**

Menu	Description	Sub-menu / Description	Default Setting
Digital Zoom	Enables digital zoom.	**OFF or ON**	OFF
Restore Defaults	Restores all default settings for this menu.		

11.4 PTZ Setup Menu

The **PTZ Menu** provides access to pan/tilt/zoom settings that can be changed or customized. Menu items marked with an asterisk (*****) are the default settings.

PTZ Setup		
	Exit...	
*	Autopan:	30 deg/sec
*	Tour 1 Period:	5 sec
*	PTZ Fixed Speed:	4
*	Inactivity:	OFF
*	Inact. Period	2 min
*	Autopivot:	ON
*	AutoDome Orientation	NORMAL
*	Freeze Frame On Preposition	ON
	Tilt Up Limit	
	Restore Defaults	
	* = Factory Setting	
	Focus / Iris: Select	

PTZ Menu Choices:

Menu	Description	Sub-menu / Description	Default Setting
Exit	Exits the menu.		
AutoPan	Adjusts speed of camera during AutoPan and AutoScan.	Sliding scale: – (1º/sec. to 60º/sec.) +	**30º/sec.**
Tour Period	Changes dwell time between presets during the tour.	Sliding scale: – (3 sec. to 10 min.) +	**5 sec.**
PTZ Fixed Speed	Sets pan and tilt speed when controlled by a fixed speed controller.	Sliding scale: – (1 to 15) +	**4**
Inactivity	Selects the mode that an AutoDome Easy II reverts to after the period of inactivity set in the inactivity period.	**Scene 1**: Returns to Preset 1. **Prev Aux**: Returns to previous activity, such as Aux commands 1, 2, 7, 8, 50, or 52. **OFF**: Remains on the current scene indefinitely.	**OFF**
Inactivity Period	Sets the time period of inactivity before the above action occurs.	Sliding scale: – (3 sec. to 10 min.) +	**2 min.**

Menu	Description	Sub-menu / Description	Default Setting
AutoPivot	Automatically rotates the camera 180º when following a subject traveling directly beneath the camera.	**OFF or ON**	**ON**
AutoDome Easy II Orientation	Automatically rotates the video 180º.	**INVERTED or NORMAL**	**NORMAL**
Freeze Frame On Preposition	Holds a preposition video frame while moving to another preposition.	**OFF or ON**	**ON**
Tilt Up Limit	Moves the camera up, down, left, and right.		
Restore Defaults	Restores the default setting for this menu only.		

11.5 Display Setup Menu

Provides access to display settings that can be changed or customized. Menu items with an ***** are the default settings.

```
Display Setup

  Exit...
* Title OSD:              MOMENTARY
* Camera OSD:            ON
  Display Adjust:
  Sector Blanking...
  Privacy Masking...
  Edit Sector Title
  Edit Scene Title
  Restore Defaults


  * = Factory Setting
  Focus / Iris: Select
```

Display Setup Menu Choices:

Menu	Description	Sub-menu / Description	Default Setting
Exit	Saves and exits the menu.		
Title OSD	Controls how the OSD displays sector or shot titles.	**OFF**: Titles are hidden. **ON**: Titles are displayed continuously. **MOMENTARY**: Titles are displayed for a few seconds then disappear from the screen.	**MOMENTARY**

Menu	Description	Sub-menu / Description	Default Setting
Camera OSD	Controls how the OSD displays camera response information, such as Digital Zoom, Iris open/close, and Focus near/far.	**OFF or ON**	**ON**
Display Adjust	Adjusts the text brightness and vertical position of the on-screen title.	**Exit**: Exits the menu. **Up**: Moves screen title up. **Down**: Moves screen title down. **Brighter**: Brightens the intensity of the on-screen text. **Darker**: Darkens the intensity of the on-screen text.	
Sector Blanking	Allows video blanking of selected sectors. Available sectors are 1 through 8. Follow the on-screen instructions.	**Exit**: Exits the menu. **Sector (1-8**: Press **Focus/Iris** to blank or clear a sector.	

Menu	Description	Sub-menu / Description	Default Setting
Privacy Masking	Allows masking of sensitive areas. Up to 12 privacy masks are available, with a maximum limit of eight (8) to a scene.	**Exit**: Saves and exits menu. **Mask**: 1 to 12 masking areas. Follow the on-screen instructions to set a mask. See **Restore Defaults**: Restores the default settings for this menu only.	
Edit Sector Title	Allows editing existing Sector (Zone) Titles	Select a sector title to access the character palette. See *Section 11.5.1 Specifying a Shot or a Sector Title, page 93*, for instructions.	
Edit Scene Title	Allows editing existing Scene (Shot) Titles	Select a scene title, then choose a menu option: – **Edit Scene Title** to access the character palette. See *Section 11.5.1 Specifying a Shot or a Sector Title, page 93*, for instructions. – **Clear Scene** to delete the selected scene title.	
Restore Defaults	Restores the default setting for this menu only.		

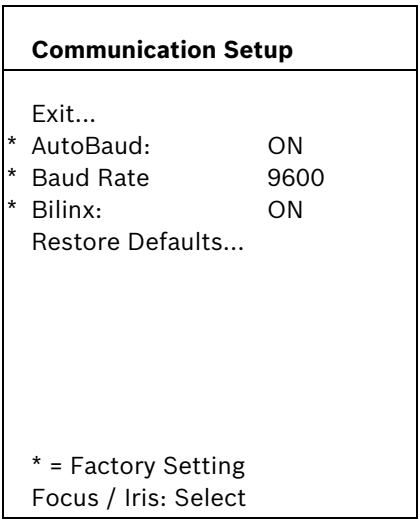
11.5.1 Specifying a Shot or a Sector Title

The AutoDome Easy II provides an alphanumeric character palette used to specify a title for a shot (scene) or for a sector (zone).

1. Select a sector or scene to add or edit a title.
2. Use the joystick to move the cursor to highlight a character.
3. Press Focus/Iris to select the character.
4. Continue to select characters (up to 16) until you have created the title.
5. To clear a character from the title:
   a. Use the joystick to highlight the **Clear OR Position Character** prompt.
   b. Move the joystick left or right until the cursor is below the title character you need to clear.
   c. Press Focus/Iris to clear the character.
   d. Move the joystick up to bring the cursor back into the character palette.
6. To save the title:
   a. Use the joystick to highlight the Exit prompt.
   b. Press Focus/Iris to save the title.

11.6 Communication Setup Menu

The **Communication Setup Menu** provides access to baud rate and Bilinx control settings. Menu items marked with an asterisk (*****) are the default settings.



Communication Setup Menu Choices:

Menu	Description	Sub-menu / Description	Default Setting
Exit	Saves and exits the menu.		
AutoBaud	Turns AutoBaud detection on.	Toggles **ON or OFF**. **ON** automatically accepts baud rates from 2400 to 57600. (Note: If stepping from 2400 to 57600 baud, you must first set the controller to 19200 for AutoBaud to detect the higher baud rate.)	**ON**

Menu	Description	Sub-menu / Description	Default Setting
Baud Rate	Manually sets the baud rate when AutoBaud is set to OFF.	Choices are 2400, 4800, 9600, 19200, 38400, and 57600. Then follow the OSD to confirm the selection.	**9600**
Bilinx	Turns on Bilinx control communication. (Only available when not connected to a Bilinx data interface unit.)	Toggles **ON or OFF**.	ON

11.7 Alarm I/O Setup

The **Alarm Setup Menu** provides access to the **Alarm I/O Setup Menu** to establish the alarm inputs and outputs and to configure alarm rules.

Alarm I/O Setup		Inputs Setup		
Exit...		Exit...		
Inputs Setup...		1. Alarm Input 1	N.O.	Physical Inputs 1
Outputs Setup...		2. Alarm Input 2	N.O.	Event Inputs 2-9
Rule Setup...		3. Aux On	99	
Restore Defaults...		4. Aux Off	14	
		5. Shot	Front Door	
		6. Aux Off	78	
		7. NONE		
		8. NONE		
		9. NONE		
Focus / Iris: Select		Focus / Iris: Select Type Right / Left: Select Mode		

Alarm Setup Menu Choices:

Menu	Description	Sub-menu / Description	Default Setting
Exit	Saves and exits the menu.		
Inputs Setup	Defines physical inputs or events and commands that can be used in a rule. There are twelve (12) alarm inputs available.		
Inputs 1	Defines the type of physical input.	**N.O.**: Normally open dry contact. **N.C.**: Normally closed dry contact.	**N.O.**

Outputs Setup Menu

Outputs Setup...		
Exit...		
1. Alarm Output	N.O.	1 Physical Output
2. Shot	Front Door	
3. Shot	2	
4. Shot	99	
5. Aux On	1	
6. Transmit		2-12 Command Outputs
7. OSD		
8. NONE		
9. NONE		
Focus / Iris: Select Type Right / Left: Select Mode		

Outputs Setup Menu Choices

Menu	Description	Sub-menu / Description	Default Setting
Exit	Saves and exits the menu.		
Outputs Setup	Defines physical outputs and keyboard commands for use in a rule.		
Output 1	Defines a physical output.	**N.O.**: Normally open circuit **N.C.**: Normally closed circuit	**N.O.**
Outputs 2-12	Refer to *Section 14 Keyboard Commands by Number, page 115* for available Aux commands.		

11.8 Alarm I/O Rule Setup Menu

The **Rule Setup Menu** shows the status of the rules and lets you add new rules or modify an existing rule. The default setting is **Empty**.

Menu items marked with the * symbol are available only with VG4 Pressure Domes.

NOTICE! You can program a total of twelve rules. You must define the inputs and outputs before you program a rule. See Section 1.7 Alarm I/O Setup, Page 182, to configure alarm inputs and outputs.

Alarm I/O Rule Setup...			**Rule 1**	
Exit...			Exit...	
1. Rule 1	Enabled		Enabled	No
2. Rule 2	Disabled		Input:	
3. Rule 3	Invalid		Physical Input 1	
4. Rule 4	Empty		NONE	
5. Rule 5	Empty		NONE	
6. Rule 6	Empty		NONE	
7. Rule 7	Empty		Output:	
8. Rule 8	Empty		Physical Output 1	Follows
9. Rule 9	Empty		OSD	
	Empty		Aux On 78	Latched
	Empty		NONE	
	Empty			
Focus / Iris: Select			Focus / Iris: Select Type	

Rule Setup Menu Choices

Menu	Description	Sub-menu / Description	Default Setting
Exit	Saves and exits the menu.		
Rule 1-9	Displays the status of a rule on the right side of the menu. There are four (4) possible rule statuses.	**Enabled**: The rule inputs and outputs are properly defined and the rule is turned on. **Disabled**: The rule inputs and outputs are defined but the rule is turned off. **Invalid**: The rule has a missing or invalid input or output. **Empty**: The rule has no inputs or outputs defined.	Empty

Selecting a **Rule** number provides access to its configuration menu. The **Rule # Menu** allows you to configure a rule from previously defined alarm inputs and outputs. Once an alarm is configured with valid inputs and outputs, it can be turned on or off (enabled or disabled) through its configuration menu.

Rule # Choices:

Menu	Description	Sub-menu / Description	Default Setting
Exit	Saves and exits the menu.		
Enabled	Turns the rule on or off after its inputs and outputs have been defined.	**YES** to enable or **NO** to disable	**NO**

Menu	Description	Sub-menu / Description	Default Setting
Input	Toggles through a list of valid inputs set in the **Alarm I/O Setup > Inputs Setup Menu** that define the rule's inputs. A rule can have up to four (4) inputs.	**Alarm Inputs 1 – 2** and any additional inputs which were set in the **Inputs Setup Menu**, including **Aux On/Off (1-99), Shot, and NONE**.	**NONE**
Output	Toggles through a list of valid outputs set in the **Alarm I/O Setup > Outputs Setup Menu** that defines a rule's outputs.	**Alarm Output 1** and any additional outputs set in the **Outputs Setup Menu** including: **Aux On/Off (1-99), Shot, OSD, Transmit, and NONE**. Some outputs, such as **Alarm Output 1 and Aux On/Off** can be set to be active for a specific duration of time as follows: **Seconds**: 1-5, 10, 15, or 30 **Minutes**: 1-5 or 10 **Latched**: The alarm stays active until acknowledged. **Follows**: The alarm follows the alarm rule.	**NONE**

NOTICE! You can include up to four (4) **Input** and **Output** events in a single rule. Each input and output, however, must be true for the alarm's rule to be valid and enabled.

11.9 Language Menu

The **Language Menu** provides access to a list of languages to display the on-screen menus.

Language
Exit... English Spanish French German Portuguese Polish Italian Dutch   Focus / Iris: Save and Exit

Language Menu Choices:

Menu	**Description**	**Default Setting**
Exit	Saves and exits the menu.	
Choose a language	Select a language in which the system displays the on-screen menus.	English

11.10 Diagnostics Menu

The Diagnostics menu provides access to a list of diagnostic tools and events.

Diagnostics	
Exit...	
Alarm Status...	
BIST...	
Internal Temp:	83F / 28C
High Temp Events:	0
Highest Temp	90F / 32C
Low Temp Events:	0
Lowest Temp:	73F / 23C
Security Access:	5
CTFID Access:	2
Homing Events:	21
Homing Failed:	0
Loss Home Events	0
Restart Events	0
Power Up Events	18
Video Loss Events	0
Total Time On:	1hr 57 Min
Focus / Iris: Select	

Diagnostic Events

Menu	Description	Sub-menu / Description
Exit	Saves and exits the menu.	
Alarm Status	Enters the Alarm Status menu and displays the real time status of alarm inputs and outputs.	Alarm Inputs 1 to 3, Alarm Output 1

Menu	Description	Sub-menu / Description
BIST	Enters the Perform **Built-in Self Tests** menu. If confirmed, the BIST tests start and the results are displayed.	**YES** to start test. **NO** to exit the menu. Typical results displayed as follows: BIST Exit... Data Flash: PASS FPGA: PASS Bilinx: PASS Homing: PASS Fan Speed: PASS
Internal Temp.	Displays the current dome temperature.	
High Temp Events	Displays the number of times the high temperature threshold is exceeded.	
Highest Temp	Displays the highest temperature reached.	
Low Temp Events	Displays the number of times the low temperature threshold is exceeded.	
Lowest Temp	Displays the lowest temperature reached.	
Security Access	Displays the number of times the locked-command menu is unlocked.	
CTFID Access	Displays the number of times the Configuration Tool is accessed.	
Homing Events	Displays the number of times the AutoDome Easy II was rebooted.	
Homing Failed	Displays the number of times the AutoDome Easy II failed to home properly.	
Loss Home Events:	Displays the number of times the AutoDome Easy II lost the home position.	
Restart Events	Displays the number of restart events.	
Power Up Events	Displays the number of power-up events.	

Menu	Description	Sub-menu / Description
Video Loss Events	Displays the number of time that video was lost.	
Total Time On	Displays the total of time that the video was on.	

12 Common User Commands (unlocked)

This chapter details the commonly used Bosch keyboard setup commands. See *Section 14 Keyboard Commands by Number, page 115*, for a complete list of commands.

12.1 Setting AutoPan Mode

AutoPan mode pans the AutoDome Easy II camera 360º or pans between user defined limits (when programmed). The AutoDome Easy II camera continues to pan until stopped by moving the joystick.

To pan 360º:

1. Press **ON-1-ENTER**.
2. Move the joystick to stop the pan.

To set left and right pan limits:

1. Move the camera to the starting position and press **SET-101-ENTER** to set the left limit.
2. Move the camera to the end position and press **SET-102-ENTER** to set the right limit.

To start AutoPan between limits:

1. Press **ON-2-ENTER**.
2. Move the joystick to stop the pan.

12.2 Setting Preset Shots

Preset shots are saved camera positions. Shots are saved as scenes, therefore, the terms **SHOT** and **SCENE** are used interchangeably.

To set a Shot:

1. Move the camera to the position you want to save.
2. Press **SHOT-#-ENTER** where **#** can be a number from 1 to 99 that identifies the camera position of the scene.

To view a Shot:

▶ Press **SHOT-#-ENTER** where # is the number of the scene position you want to view.

To store or clear a Shot:

1. Press **SET-100-ENTER** to access the **Store/Clear Scene Menu**.
2. Follow the on-screen instructions.

12.3 Configuring Preposition Tours

A **Preposition Tour** automatically moves the camera through a series of preset or saved shots.
The AutoDome Easy II has one (1) standard preset tour, two (2) playback tours, and two (2) auto pan modes. Tour 1 is a standard tour that moves the camera through a series of shots in the sequence of shot number.

To start Preposition Tour:

1. Set a series of preset shots in the order that you want the AutoDome Easy II to cycle through.
2. Press **ON-8-ENTER** to start the tour. The tour then cycles through the series of shots until it is stopped.

To stop a Preposition Tour:

▶ Press **OFF-8-ENTER** or move the joystick to stop either type of tour.

To add or remove scenes to Preposition Tour:

1. Press **SHOT-900-ENTER** to access the **Add/Remove Scenes Menu**.
2. Use the **Focus/Iris** buttons to add or remove the selected scene from the tour.

To change the dwell period of a tour:

1. Press **ON-15-ENTER** to access the **Tour Period Menu**.
2. Follow the on-screen instructions.

12.4 Programming the Inactivity Operation

You can program the AutoDome Easy II to automatically change its operating mode after a period of inactivity.

To access the Inactivity mode (locked command):

1. Press **OFF-90-ENTER** to turn off the command lock.
2. Press **ON-9-ENTER** to access the **Inactivity Mode Menu**.
3. Select one of the following choices:
   - **Return to Scene 1**: Returns the camera position back to the first scene saved in memory.
   - **Recall Previous Aux**: Returns the camera to the previous operating mode, such as a **Preposition Tour**.

12.5 Recorded Tours

The AutoDome Easy II can make up to two (2) recorded tours. A **Recorded Tour** saves and then plays back up to 15 minutes of all manual camera movements made during the recording, including its rate of pan, tilt and zoom speeds and other lens setting changes.

To Record Tour A:

1. Press **ON-100-ENTER** to start recording a tour.
2. Press **OFF-100-ENTER** to stop recording.

To playback Recorded Tour A:

1. Press **ON-50-ENTER** to begin continuous playback.
2. Press **OFF-50-ENTER** or move the joystick to stop playback

To Record Tour B:

1. Press **ON-101-ENTER** to start recording the tour.
2. Press **OFF-101-ENTER** to stop the tour.

To playback Recorded Tour B:

1. Press **ON-52-ENTER** to begin continuous playback.
2. Press **OFF-52-ENTER** or move the joystick to stop playback.

13 Pelco On-Screen Menus

You can program the AutoDome Easy II through the Pelco on-screen display (OSD) menus. To access the Pelco menus, the user must configure the AutoDome Easy II for **Pelco Mode** and invoke the Pelco main **Setup Menu**.

13.1 Setup Menu

The Pelco main **Setup Menu** provides access to the programmable AutoDome Easy II settings. Some menu items are locked and require a system password to use. Menu items marked with an ***** are the default settings.

To open the Pelco main Setup Menu (locked commands):

1. Press **95**-**PRESET** (press the **PRESET** button for approximately 2 seconds to open).
2. Use the joystick to highlight a menu item.
3. Press either the **Focus** or the **Iris** key to open a menu item.
4. Follow the on-screen instructions at the bottom of the screen.

Setup Menu	
Exit...	
Command Lock:	OFF
Bosch Menu	
Camera Setup	
PTZ Setup	
Edit Password	
*FastAddress:	Not Set
Advanced	
Software Version	
Ack and Reset Alarms	
Restore All Settings	
Reset All Memory	
* = Factory Setting	
Focus / Iris: Select	

NOTICE!
Use Zoom to select the **Exit** item from anywhere in a menu.

Menu	Description
Exit	**Exits the menu.**
Command Lock (locked)	Allows or prohibits accessing locked commands. (If password is set, you are prompted to enter the password.
Bosch Menu (locked)	Accesses the full AutoDome Easy II configuration menu and all AutoDome Easy II settings.
Camera Setup	Accesses the White Balance and Night Mode camera settings.
PTZ Setup	Accesses the tours, tour periods, scan speed, edit presets, limit stops, recording, and AutoPivot settings.
Edit Password (locked)	Changes the password.
FastAddress (locked)	Sets or changes a camera address.
Software Version	Displays the current software versions.
Ack and Reset Alarms	Acknowledges and resets active alarms.
Restore All Settings (locked)	Restores all settings to their original default setting.
Reset All Memory (locked)	Clears all settings, including scene shots, tours, and recordings stored in the AutoDome Easy II memory.

NOTICE!
After a period of 4.5 minutes of inactivity, the OSD menu times-out and exits without warning. Some unsaved settings can be lost!

13.1.1 Command Lock (locked)

The Pelco **Command Lock Menu** allows or prohibits the use of locked commands. The default setting is **ON**.

NOTICE!
If the Command Lock is set to **ON** and you press **Focus** or **Iris** on a locked command, the AutoDome Easy II displays the on-screen message: “Command is Locked.”

13.1.2 Bosch Menu (locked)

The **Bosch Menu** allows full access to the AutoDome Easy II main **Setup Menu** and all AutoDome Easy II configuration settings.

Pelco menu		**Bosch menu**
Setup Menu		**Setup Menu**
Exit...		
Command Lock:	OFF	Exit...
Bosch Menu		Camera Setup
Camera Setup		Lens Setup
PTZ Setup		PTZ Setup
Edit Password		Display Setup
*FastAddress:	Not Set	Communication Setup
Advanced		Alarm Setup
Software Version		Language
Ack and Reset Alarms		Advanced
Restore All Settings		Diagnostics
Reset All Memory		
* = Factory Setting		
Focus / Iris: Select		Focus / Iris: Select

Refer to *Section 2: On-Screen Display Menu Navigation* for a complete description of Bosch menus and configuration settings.

Camera Setup (unlocked)

The Pelco **Camera Setup Menu** provides access to camera settings.

```
Camera Setup

  Exit...
* White Bal:      OUTDOOR
* Night Mode:     AUTO




  * = Factory Setting
  Focus / Iris: Select
```

Camera Setup Menu Choices:

Menu	Description	Sub-menu / Description	Default Setting
Exit	Exits the menu.		
White Balance	Sets a default value in case the Pelco controller disables the white balance.	**OUTDOOR**: Sets a default setting if the controller disables white balance. **INDOOR**: Sets a default setting if the controller disables white balance.	**OUTDOOR**
Night Mode	Switches from color to monochrome.	**ON**: Sets Night Mode on. **OFF**: Sets Night Mode off. **AUTO**: Sets Night Mode to Auto set.	**ON** (Day/Night models only)

13.1.3 PTZ Setup (unlocked)

The Pelco **PTZ Setup Menu** provides access to the PTZ settings such as tours, scan speed, presets, limit stops, recording, and AutoPivot.

```
PTZ Setup

  Exit...
* Edit Tour 1...
* Tour 1 Period:   5 sec
* Scan Speed       30 deg/sec
  Edit Presets...
* Limit Stops:     OFF
* Recording:       "A"
* Autopivot:       ON

  * = Factory Setting
  Focus / Iris: Select
```

PTZ Setup Menu Choices:

Menu	Description	Sub-menu / Description	Default Setting
Exit	Exits the menu.		
Edit Tour	Accesses the **Add / Remove Scenes On Standard Tour 1 Menu**.	**Exit**: Exits the menu. **Scene (1 - 5)**: Adds or removes scenes from the **Standard Tour**.	
Tour Period	Changes the length of waiting time between presets.	Sliding scale: – (3 sec. to 10 min.) +	**5 sec.**
Scan Speed	Changes the Autopan and AutoScan speeds.	Sliding scale: – (1°/sec to 60°/sec) +	**30°/sec.**
Edit Presets	Modifies preset scenes.	1-99 scenes	
Limit Stops	Toggles the Limit Stops for AutoScan.	**ON** or **OFF**	**OFF**

Menu	Description	Sub-menu / Description	Default Setting
Recordings	Selects record Pattern 1 or 2, if normal pattern command does not respond.	"**A**" or "**B**"	**"A"**
AutoPivot	Follows a subject while beneath the camera, without inverting the picture.	**ON or OFF**	**ON**

13.1.4 Other Menus

Menu	Description	Default Setting
FastAddress (locked)	Sets or changes the AutoDome Easy II address.	**Not Set**
Software Version (unlocked)	Displays the camera software version.	
Ack and Reset Alarms	Acknowledges and resets alarms. If there is no active alarm input, the OSD displays the following message: "No Active Alarms."	
Restore All Settings (locked)	Restores all settings to their original factory default settings.	
Reset All Memory (locked)	Restores all settings to their original factory default settings and clears all user programmed settings such as preset scenes and recordings.	

14 Keyboard Commands by Number

Locked	Alarm Rule Output	Function Key	Comm No.	Command	Description
	Y	On/Off	1	Scan 360°	Autopan without limits
	Y	On/Off	2	Autopan	Autopan between limits
Y		On/Off	3	Iris Control	Enters menu (auto, manual)
Y		On/Off	4	Focus Control	Enters menu (spot, auto, manual)
	Y	On/Off	8	Play Pre-position Tour	Activate/Deactivate
Y		On/Off	9	Inactivity Mode	Enters menu (Off, Return to Scene 1, Recall Previous PTZ Command)
Y		On/Off	11	Auto Iris Level adjust	Enters Iris Level Adjustment menu
		On/Off	14	Set Autopan and Scan Speed	Enters speed adjustment slide bar
		On/Off	15	Set Pre-position Tour Period (dwell)	Enters dwell adjustment slide bar
Y	Y	On/Off	18	AutoPivot Enable	Enables/disables AutoPivot
	Y	On/Off	20	Backlight Comp	Backlight Compensation
Y		On/Off	23	Electronic Shutter	Enters Shutter Speed slide bar

Locked	Alarm Rule Output	Function Key	Comm No.	Command	Description
Y		On/Off	35	White Balance Mode	Enters White Balance menu
Y		On	40	Restore Camera Settings	Restores all setting to their original defaults
Y		On/Off	41	Line Lock Phase Adjust	Enters delay adjustment slide bar
Y	Y	On/Off	42	Sync Mode	On–Line Lock Off–Crystal
Y	Y	On/Off	43	Auto Gain Control	AGC–On, Auto, Off
Y		On/Off	44	Sharpness	Enters Sharpness menu
Y		On	46	Advanced Menu	Enters Main Setup menu
		On	47	View Factory Settings	View all menu default settings
	Y	On/Off	50	Playback A, continuous	Activate/Deactivate
	Y	On/Off	51	Playback A, Single	Activate/Deactivate
	Y	On/Off	52	Playback B, Continuous	Activate/Deactivate
	Y	On/Off	53	Playback B, Single	Activate/Deactivate
	Y	On/Off	55*	Command Lock/Unlock	On–lock on Off–lock off
Y	Y	On/Off	60	On Screen Display	On–enable Off–disable

Locked	Alarm Rule Output	Function Key	Comm No.	Command	Description
Y		On	61	Display Adjust	Adjust On-screen Display
		On	62	Pre-position Title menu	Enters Pre-position Title menu. See *Section 11.5.1 Specifying a Shot or a Sector Title, page 93*.
Y		On	63	Zone Title menu	Enters Zone Title menu. See *Section 11.5.1 Specifying a Shot or a Sector Title, page 93*.
		On	64	Alarm Status	Enters Alarm Status menu
		Off	65	Alarm Acknowledge	Acknowledge alarm or deactivate physical outputs
		On	66	Display software version	Displays software version number
Y	Y	On/Off	80	Digital Zoom Lock	Turns digital zoom on and off
		On/Off	81	Alarm Output 1	On–activates output Off–deactivates output
Y	Y	On/Off	86	Sector Blanking	Enters Sector Blanking menu
Y	Y	On/Off	87	Privacy Masking	Enters Privacy Masking menu
	Y	On/Off	90*	Command Lock/Unlock	On–lock on Off–lock off

Locked	Alarm Rule Output	Function Key	Comm No.	Command	Description
Y		On/Off	91	Lens Polarity menu	On–reverse Off–normal
Y		On/Off	92	Lens Polarity menu	On–reverse Off–normal
Y		On/Off	93	Lens Polarity menu	On–reverse Off–normal
		On/Off	100	Record A	Activate/Deactivate
		On/Off	101	Record B	Activate/Deactivate
		On	997	FastAddress, display	Display current address
		On	998	FastAddress, all units	Display and program current address
		On	999	FastAddress, unaddressed domes	Display and program unaddressed AutoDome Easy IIs
		Set	“1-99”	Pre-position programming	Set ##–programs a preset view
		Shot	“1-99”	Pre-position recall	Shot ##–recall programmed preset
		Set	100	Pre-position menu	Enters the Pre-position menu
		Set/ Shot	101	Autopan left limit	Set–programs left limit Shot–shows limit
		Set/ Shot	102	Autopan right limit	Set–programs right limit Shot–shows limit
		Set	110	Factory P/T home position	Set–recalibrate home position

Locked	Alarm Rule Output	Function Key	Comm No.	Command	Description
Y		Set	899	Reset ALL	Restores all settings to original defaults and clears all user-programmed settings
		Shot	900	Edit Tour	Enters the Tour add/ remove menu
		Set/ Shot	901-999	Adds/ Removes a preposition shot from Tour 1	Set ###–adds preset Shot ###–removes preset
*Commands perform the same function Aux 55 is required for older Allegiant systems.					

15 Preventive Maintenance

The following preventive maintenance schedule allows detection and correction of minor faults before they become serious and cause equipment failure. Periodically perform the following:

- Inspect all connecting cables for deterioration or other damage.
- Wipe housing with a clean damp cloth.
- Clean the dome/windows with an approved P.C (LEXAN) Cleaner (Novus LEXAN cleaner-plastic polish).
- Verify that all the mounting hardware is secure.

When cleaning the dome bubble heed these warning:

- Do not use alcohol-based solutions to clean the bubble. This will cause the bubble to cloud and over time cause stress aging, which makes the bubble brittle.
- Do not use abrasive or highly alkaline cleaners on the bubble.
- Do not scrape the bubble with razor blades or other sharp instruments.
- Do not use Benzene, Gasoline, Acetone, or Carbon Tetrachloride on the bubble.
- Do not clean bubbles in direct sunlight or on very hot days.

16 Troubleshooting

If you experience difficulties operating your AutoDome Easy II camera, refer to the following. If the guidelines do not enable you to solve the problem, contact an authorized technician.

Problem	**Check**
Need to remove trim ring.	Use a slotted screw driver and push the clips outward while gently pulling down on the edge of the trim ring.
Nothing appears on the screen.	Are the power cord and line connection between the camera and monitor made properly?
The image on the screen is dim.	Is the lens dirty? If so, clean the lens with a soft, clean cloth.
The contrast on the screen is too weak.	Adjust the contrast feature of the monitor. Is the camera exposed to strong light? If so, change the camera position.
The image on the screen is flickers.	Does the camera face directly into the sun or fluorescent lighting? If so, reposition camera.
The image on the screen is distorted.	Is the power frequency set properly in sync? If the power frequency is not set correctly, the line lock synchronization mode cannot be used. Set the synchronization mode to INT.NTSC Model power frequency in LL mode: 60 Hz.

16.1 AutoDome Easy II Operation and Control

Problem	Solution
No video	– Check that the Red LED (power) is on by removing the unit from its mount and looking on top of the unit. This LED indicates video from the camera. **Red LED on AutoDome Easy II CPU Module** **If the Red LED is on, then:** – Try cycling the AutoDome Easy II power off and on. **If the Red LED is off, then:** – Check that the mains power to the power supply is on. **If O.K., then:** – Check that there is 24 V output from the transformer. **If O.K., then:** – Check the integrity of all wires and mating connectors to the AutoDome Easy II.
No camera control	– Ensure that the keyboard and monitor are set to the correct (same) camera number. **If O.K., then:** – Check that the camera address is properly set. Enter **ON**-**997**-**ENTER** to display the camera address. **If address is not set or is incorrect, then:** – Set the camera address using FastAddress (**ON**-**998**-**ENTER)**. **If O.K., then:** – Check that the Yellow LED, located on the top of the AutoDome Easy II unit, turns on when receiving pan/tilt commands from the controller keyboard. The Yellow LED indicates data is being received.

No camera control	**Yellow LED on AutoDome Easy II Module** **Flash Sequence** – Off No incoming communications or no power – Solid for 2 seconds Receiving good data – Fast blinking Lost packet(s) **If Yellow LED does not light when given PTZ commands, then:** – Check if other cameras on the system can be controlled. If not, check the controller and wiring connections. **If O.K., then:** – Ensure that all Biphase, Bilinx, or 485 wires are properly connected. **If O.K., then:** – Check if you can access the AutoDome Easy II OSD menus (**ON**-**46**-**ENTER**). **If O.K., then:** – Confirm that the AutoDome Easy II passes homing (**SET**-**110**-**ENTER**). – **If AutoDome Easy II fails homing, then:** – Contact Bosch Technical Support.
Intermittent camera control	– Check that only the last AutoDome Easy II in a daisy chain configuration is terminated with a 100 ohm resistor across the +/- biphase terminals. **If O.K., then:** – Check that the maximum wire distance has not been exceeded for the control protocol. **If O.K., then:** – Check that all wiring meets Bosch recommended standards and specifications.

Camera moves when moving other cameras	– Check that the camera address is properly set (**ON**-**997**-**ENTER**). If the camera address is not set, the AutoDome Easy II responds to control commands to any camera on the system. **If camera address is not set, then:** – Invoke the **FastAddress Menu** to assign a camera address (**ON**-**998**-**ENTER**).
Cannot access user settings	– Enter the unlock command **OFF**-**90**-**ENTER**. (Commands automatically lock in 30 minutes.) **Then,** – Enter **ON**-46-**ENTER**.
Picture is dark	– Check that the Gain Control is set to **AUTO** (**ON**-**43**-**ENTER**). **If O.K., then:** – Check that the Auto Iris Level is set to the appropriate level (**ON**-**11**-**ENTER**). **If O.K., then:** – Check that the video coax is terminated with 75 ohm only at the head end (double termination causes dark video). **If O.K., then:** – Go to the **Camera Setup Menu** and increase the Pre-Compensation setting. **If O.K., then:** – Check that the camera lens cover is removed. **If O.K., then:** – Check that the maximum coax distance has not been exceeded. **If O.K., then:** – Restore all camera settings (**ON**-**40**-**ENTER**).

Colors are not correct	– Reset the White Balance to the appropriate selection (**ON**-**30**-**ENTER**). **If O.K., then:** – Go to the **Camera Setup Menu** and increase the Pre-Compensation setting. **If O.K., then:** – Check that the maximum coax distance has not been exceeded. **If O.K., then:** – Restore the default settings (**ON**-**40**-**ENTER**).
Background is too bright to see subject	– Turn on backlight compensation (ON-20-ENTER).
Video is rolling, noisy or distorted	– Ensure that the Synch Mode is set to Internal (**OFF**-**42**-**ENTER**). **If O.K., then:** – Check that the maximum coax distance has not been exceeded. **If O.K., then:** – Check the integrity of all BNC connectors and splices. **If O.K., then:** – Contact Bosch Technical Support.

A Alternative Control Protocols

The AutoDome Easy II supports two alternative control protocols that allows a user to send commands and to receive information from the AutoDome Easy II. The AutoDome Easy II supports the following protocols:

- Pelco-P
- Pelco-D

A.1 Setting FastAddress with Alternative Protocols

The AutoDome Easy II offers remote addressing via the FastAddress capability from a keyboard that uses an alternative protocol. The FastAddress feature allows you to instal all domes first, then set the addresses via the control system. Since it is not necessary to go to the camera's physical location, this feature makes it easier to readdress cameras at a later time.

A.1.1 Using a Pelco Controller

This section provides instructions to set a FastAddress with a Pelco keyboard or controller.

- An AutoDome Easy II with an address set to 0 responds to commands set to any address.
- **Pelco-P** protocol must use addresses 1 to 32.
- **Pelco-D** protocol must use addresses 1 to 254.

NOTICE!

A previously configured AutoDome Easy II with an address above 32 (Pelco-P upper limit) or 254 (Pelco-D upper limit) can be used without readdressing the unit. However, no two (2) addresses can be the same. For example:
Pelco-P addresses above 32 are repeated in multiples of 32 (1, 33, 65, 97 are the same).
Pelco-D addresses above 254 are repeated in multiples of 254 (1, 255, 509, 763 are the same).

Setting FastAddress with a Pelco Keyboard

1. Press and hold **95-PRESET** for two seconds to open the Pelco Setup menu.
2. Move the joystick to select the **Command Lock** menu.
3. Press the **FOCUS** or the **IRIS** button to turn Command Lock to **OFF**.
4. Move to the **FastAddress** menu and press the **FOCUS** or the **IRIS** button to open the menu.
5. Use the joystick to enter the unique identifier for the AutoDome Easy II.
   - Move the joystick up or down to select the number.
   - Move the joystick right to move to the next number position.
6. Move the joystick right to select Continue. Then, press the **FOCUS** or the **IRIS** button.
7. Use the keyboard to enter the **FastAddress** number. Then, press the **Camera** button.
   Note: You must first clear an assigned FastAddress number to use the number for a different AutoDome Easy II.
8. Move the joystick down then back up to set the **FastAddress** number.
9. Press the **FOCUS** or the **IRIS** button to store the **FastAddress** number.
   The on-screen display menu confirms that the AutoDome Easy II stored the FastAddress number.

A.2 Pelco Protocol Mode

The Pelco Mode features Auto Baud Detection that automatically detects and adjusts the AutoDome Easy II protocol and baud rate to match that of the controller. The AutoDome Easy II responds to Pelco-D or Pelco-P protocol commands.

NOTICE!
The AutoDome Easy II supports only the RS-485 protocol while in Pelco mode. It does not transmit responses back to the controller.

A.2.1 Hardware Configuration

The AutoDome Easy II is configured from the factory for RS-485 operation in **Pelco Protocol Mode**.

1. Connect the controller's TX terminals to the AutoDome Easy II's TxD terminals. See the AutoDome Easy II Modular Camera System Installation Manual for complete wiring instructions.
2. Pan or tilt the keyboard joystick to confirm that control has been established to the AutoDome Easy II (approximately five (5) seconds).

A.2.2 Pelco Keyboard Commands

Pelco control commands are composed of a sequence of two (2) keyboard inputs with the following convention: 1) a **Command Number** and 2) a **Function** key input.
The AutoDome Easy II uses the **PRESET** command key to save and recall presets (pre-positions) 1 through 99.

NOTICE!
To save a preset, enter the desired number and hold the **PRESET** key for approximately two (2) seconds. To recall a preset, enter the desired preset number (or command) and momentarily press and release the **PRESET** key.

A.2.3 Pelco Keyboard Commands

Keyboard Command	User Action	Description
0-Pattern	Press	Initiates recording continuous playback based upon current Recording setting (A or B) in the Setup Menu, or
	Press and hold	Initiates recording based upon current Recording setting (A or B) in the Setup Menu. Press ACK to end recording.
1-Pattern	Press	Initiate Recording A continuous playback.
	Press and hold	Initiate Recording A. Press ACK to end recording.
2-Pattern	Press	Initiate Recording B continuous playback.
	Press and hold	Initiate Recording B. Press ACK to end recording.
3-Pattern	Press	Initiate the AutoDome Easy II standard preset tour.
1 – Aux On / Aux Off	Press	Activates / deactivates alarm output 1.
2 – Aux On / Aux Off	Press	Activates / deactivates alarm output 2.
3 – Aux On / Aux Off	Press	Activates / deactivates alarm output 3.
4 – Aux On / Aux Off	Press	Activates / deactivates alarm relay.
91 – Aux On	Press	Activate Zone Scan (display zone titles).
92 – Aux On	Press	Deactivate Zone Scan (re-move zone titles)

A.2.4 Special Preset Commands

Some **Pelco** mode preset commands have a special meaning and override the normal Pelco preset function as follows:

Preset Command	Description
33-PRESET	Pans the AutoDome Easy II 180° (Flip).
34-PRESET	Goes to **Zero Pan** (original home position).
80-PRESET	Toggles the **Synchronization Mode** between Line Lock and Crystal (Pelco Frame Scan). This command is available if commands are unlocked using the Main menu.
81-PRESET	Initiates **Preset Tour**.
92-PRESET	Sets the **Left** pan limit for an AutoScan with **Limit Stops** enabled.
93-PRESET	Sets the **Right** pan limit for an AutoScan with **Limit Stops** enabled.
94-PRESET	Initiates a **Preset Tour**.
95-PRESET	Enables or disables **Limit Stops** in the **Setup Menu** for AutoScan. Invokes the Pelco main **Setup Menu** when pressed for 2 seconds.
96-PRESET	Stops a scan.
97-PRESET	Initiates FastAddress (Pelco Random Scan).
98-PRESET	Toggles the **Synch. Mode** between **Line Lock** and **Crystal** (Pelco Frame Scan). This command is available only for two (2) minutes after the power is applied and then reverts to normal preset functionality.
99-PRESET	Starts an AutoScan

NOTICE!
Some Pelco controllers do not support all the preset command numbers. Consult the specific Pelco controller's documentation for supported preset commands.

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